TRAINEE REPORT 2016

51ST ANNUAL ISSUE

cetac

CHALMERS ENGINEERING TRAINEE APPOINTMENT COMMITTEE

Bli medlem i CETAC

CETAC är en ideell förening vars syfte är att ordna praktikplatser i USA och Kanada för teknologer från E, D, IT, F och TM oavsett ekonomisk bakgrund. Vi kan stoltsera med tidigare arbetsgivare som till exempel NASA, Tibco Spotfire, Bracket, Apple, Intel, Microsoft, VMware, Ericsson och SUN Microsystems. Pratiktikplatserna varierar från en sommar till ett helt år. Vissa blir till och med kvar i Nordamerika eller åker tillbaka dit igen efter de har tagit sin examen! CETAC lägger också stor vikt vid att praktikplatserna är intressanta och kvalificerade ingenjörsarbeten för varje enskild medlem.

Praktiken ger inte bara goda arbetslivserfarenheter men också ett värdefullt kulturellt utbyte. Kulturell förståelse och erfarenhet är något som efterfrågas allt mer i det globaliserade näringslivet. Förbättrade språkkunskaper i engelska är också jätteviktigt då ingenjörers kommunikativa förmåga är av stort värde för företag idag men också att för att företag har engelska som koncernspråk.

För att bli medlem i CETAC skall du studera på E, D, IT, F eller TM samt vara svensk medborgare eller ha permanent uppehållstillstånd i Norden. Vid ansökningstillfället måste du även ha uppnått minst 75 hp på din utbildning, och under det kommande året uppnå sådana studieresultat att du är studiemedelsberättigad.

CETAC är föreningen för dig som är motiverad och beredd att lägga ned tid och engagemang för att få ut något extra av din studietid. Vill du söka en praktikplats till sommaren 2018 så är ansökningstillfället för detta våren 2017. Som medlem är man aktiv knappt ett år innan avresa och får chansen att lära känna teknologer från andra sektioner. Missa inte chansen att uppleva ett spännande och lärorikt äventyr!

Om du har några frågor, tveka inte skriva till oss på info@cetac.se eller läsa mer på www.cetac.se

Läser du inte på något av de program som ingår i CETAC? Kolla in vår systerförening AMCIP på www.amcip.se.

Editor's Note

We all joined CETAC with the common goal of moving to North America to work and experience a different culture. Students from Software Engineering, Engineering Physics, Electrical Engineering, Computer Science and Engineering Mathematics all worked together a full year to make this a reality.

CETAC - Chalmers Engineering Trainee Appointment Committee - is a student organization that each year makes it possible for committed students from Chalmers University of Technology to travel to the US and gain valuable experiences.

This year 14 members of CETAC moved to North America to work as engineers. They now live in Toronto, Florida, Maryland, Boston, New York, and of course the big tech hub California and work in a wide variety of fields, from Space engineering to IT startups. In this, the 51th annual edition of the CETAC Trainee Report, you can read about their experiences.

If you find this interesting, don't hesitate to contact CETAC, or read the members' blogs on CETAC.se.

Markus Andersson Norén
Editor in chief
CETAC 2016

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The board of CETAC 2016

From the left: Joakim Berntsson *Internship coordinator,* Armand Ghaffarpour *Treasurer,* Adam Tonderski *Internship coordinator,* Britta Thörnblom *Chairwoman,* Markus Andesson Norén *Editor,* Simon Takman *Sales manager*

The members of CETAC 2016

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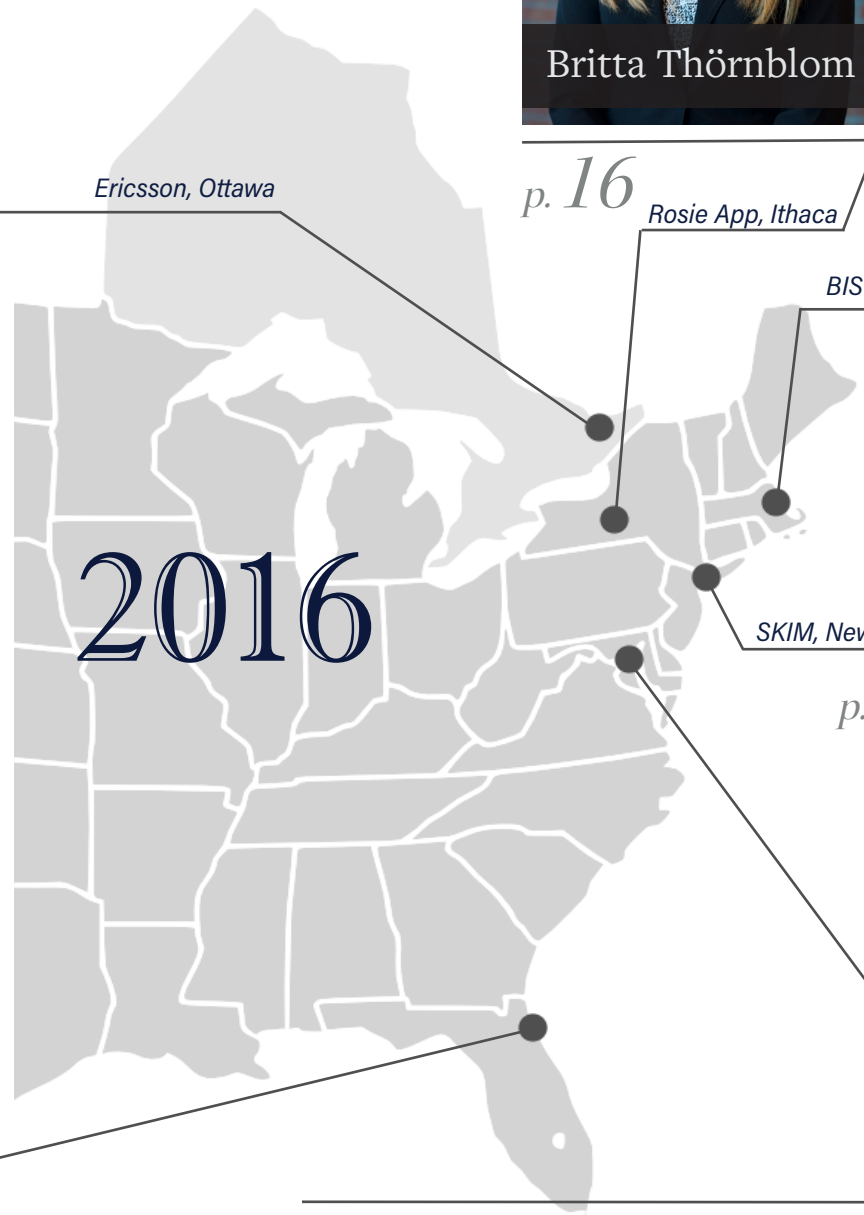
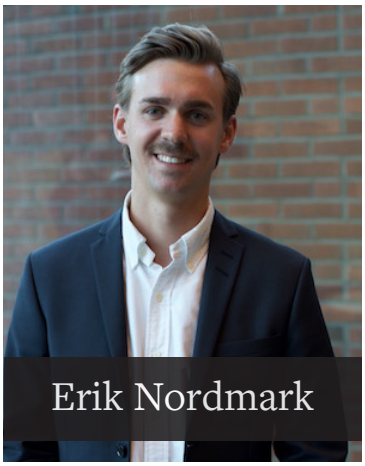




Erik Nordmark

Erik Thorsell

Simon Strandberg

Lina Olandersson

STEFAN BENGTSSON
President and CEO
Chalmers University of Technology

CHALMERS' INTERNATIONAL OUTREACH

Our vision, Chalmers for a sustainable future, permeates all our activities. This requires us to be both locally and globally connected and engaged and makes international networking, collaboration and exchange key priorities in education, research and innovation.

Chalmers alumni have their careers in diverse and internationally connected companies and organizations. Hence, developing and supporting activities providing Chalmers' students with international experience as an integrated part of their education is essential.

CETAC is a student led organization supporting Chalmers' students in their quest to find companies in the US and Canada offering internships and its committee is dependent on your support to ensure the continued success of the program. CETAC plays an important role in providing opportunities for international experience to Chalmers' students and I fully support the program.

Stefan Bengtsson
President and CEO
Chalmers University of Technology

CETAC 2016 IN NEW YORK

As tradition has it, some of us started the adventure with a couple of days in New York. Besides having a lot of fun, it was a great way to process the fact that we had all left our lives in Gothenburg and moved to the US. There was definitely some nervousness going around but mostly we were all just really excited.

We all stayed together in an AirBnB in upper Manhattan. It was a pretty good location and we got the entire apartment to ourselves so we could come and go whenever we liked. During the days we mostly wandered around in the downtown, trying to see as much as possible. We went to most of the standard attractions: Statue of Liberty, Times Square, Central Park, Wall Street, Chinatown etc. The night time view from Empire State Building was incredible, we highly recommend checking it out.

As another part of the CETAC tradition we went to visit ASF, the American Scandinavian Foundation. They helped us out with some paperwork and we all went to see a Yankees game. Turns out baseball can be really fun as long as you grab some beer, hang out with cool people and, most importantly, don't pay attention to the game. Go Yankees!

The group didn't always stay together but we all had a really good time. Some of the other cool things we did were:

- Dinosaurs in the museum of natural sciences
- Amazing burgers in the local bar
- Visit to Brooklyn Brewery
- Mexican breakfast
- Local latino nightlife
- Stand up comedy night

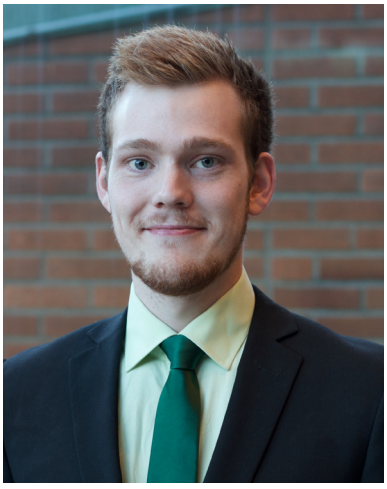
All too soon it was time for us to disperse across the country. Despite its' enormous size, New York managed to feel welcoming and some of us were already planning our next visit. We didn't look back though, as it was time for the next step in our adventure.

Adam Tonderski

THE FLORIDA SURVIVAL GUIDE

HEAT, GATORS AND HARD WORK

From rainy Gothenburg to slightly less rainy and way hotter Florida, three months in it still sometimes hits us what a crazy life we are living. We have already gotten more experience than we know what to do with, and we haven't even started yet - luckily we can always relax down at the beach. Live salty, as they say.



As far as Christmas gifts go, a job isn't all that bad! We were the first two CETAC members to get our jobs - at Amerden, located in the city of Saint Augustine, Florida. As interns, we would learn all about Automated Guided Vehicles - certainly a pretty big step from studying Engineering Mathematics and Physics. In the middle of winter, the day before Christmas Eve, it was hard to imagine what life would be like in hot, humid Florida. Luckily we had a full six months to prepare, and after two excruciatingly slow semesters of studying and a lot of visa bureaucracy it was finally time to board our plane and prepare for a full year of living, working and exploring in the US.

Before heading to Florida, we started our trip as two of the few people this year who went to New York. An easy 17 hours of airplane travel later we finally arrived at JFK airport. After going through several months of detailed and tedious Visa applications, it felt a bit surreal to actually watch the security guard take our papers, look them over, and welcome us into the country. Stepping out of the airport, tired and jetlagged, we started our exploration of New York city. Although New York has a reputation as a harsh,

Nils Carlsson
Age: 23
Education: B.Sc. Engineering Physics
Best US memory: Seeing Flight of the Conchords live
Duration of internship: 1 year

Olle Svanström
Age: 24
Education : B.Sc. Engineering Mathematics
Best US memory: Watching the 4th of July fireworks in St Augustine
Duration of internship: 1 year

Amerden Inc.
Location: Saint Augustine, Florida
Number of employees: 14
Web: www.amerden.com

unfriendly city, we found it to be incredibly welcoming! Maybe it's the fact that they are used to tourists, but everyone we talked to was more than happy to help us find our way around the Big Apple. Starting out from our Harlem AirBnB, we had four days to experience as much of the city as possible. Describing it all would take far too long, but we managed to do everything from walking around Central Park, visit museums, catch a baseball game, go barhopping in Harlem, buy coffee from hipsters, get a tour of the Brooklyn Brewery, and watch an improv comedy show. The most memorable moment might have been going up in the Empire State building at night and looking out over the whole city. As cliché as it may sound, New York certainly lives up to its reputation! But soon our summer vacation was over, and it was time to get down to Florida to start working.

> If it sounds like we're bragging, that's because we are.

Actually getting to Florida was as easy as missing our flight, getting it rebooked and arriving around 4 hours late. Appearently they do that for you free of charge, so that's a lifehack for you - miss all your flights, it will all work out great in the end! We were in a pretty unique position, as most of CETAC:s interns end up on the west coast, near or at Silicon Valley, but we had landed in Florida, which by all accounts is a state unlike any other in the US regarding the flora, the fauna, and the people. The first thing that hits you, literally, is the humidity. Walking out of the airport feels more or less like walking into a sauna, and with the palm trees you might as well have traveled to another country than the one you left in NY. We got picked up by our boss, incidentally a CETAC and Chalmers alumni, and drove from Jacksonville to the city of Saint Augustine.

The city of St Augustine is "the oldest continuously occupied European-established settlement within the borders of the contiguous United States", which in simple terms means it's quite an old town. With only a population of around 20,000 inhabitants it is quite small by american standards, but this is offset by the continuous stream of tourists that flock to the (in american terms) "Ancient city". Founded by the spanish in 1565, the town centre still shows influence from the colonial days. Some buildings remain from the colonial times, like the fort Castillo de San Marcos, and the influence of spansih archtecture is appearent in many of the older buildings. Downtown is always full of life, and we found that there is no shortage of bars, restaurants and stores in the city. The current favorites are Mojo's BBQ, where you can get authentic southern barbeque with all the sides, and Stoogies, a bar with cigars and live music. And speaking of live music, only a mile (1.6 km) from where we live there's an amphiteatre that usually has a live show a couple of times every week. Even though it's a small venue, they seem to pull some pretty good bands - Nils managed to get ticket to Flight of the Conchords, which was a Pretty Big Deal for someone who's been a fan since high school. Our condo is actually located outside of St Augustine, on the small Anastasia island, along the beach and the famous A1A road that runs along the Floridian coast line. Provided by Amerden, it's certainly a step up from the usual student apartment - if only for the pool and the 1-minute walk to the sea! If it sounds like we're bragging, that's because we are. Going down to the beach at the end of the week, smoking cigars, drinking beers and watching the sunset is certainly something we are going to miss once back in Sweden.

You soon realize that life in Florida is separated into two halves - AC and non-AC. During the summer the temperatures consistently hits around the 35-40 degree celsius mark, joined with

thunderstorms that roll in, absolutely drown everything, and disappear in the span of a half hour. Other than the climate, life in the US is not all that different from life in Sweden. The biggest difference is probably the driving culture. The US really is a nation built for cars, and you are lucky to find pedestrian walkways, especially in smaller towns. And with big americans SUV:s barreling down the roads, driving sometimes feel like the safer option. We have heard of a mythical bus line that supposedly runs throughout the town, but we have yet to confirm its existence. This is also made more annyoing thanks to the typical american roads, and the typical american driver. As for the people, the famous southern hospitality does extended down to Florida, and more or less everyone we talk to is friendly and outgoing. They also find it very interesting to meet interns from Sweden - as one lady said, we do make very good clocks.

As for our jobs, Amerden has been hiring CETAC interns for the last ten or so years, and as such they have the routine pretty much down to pat. The work we would be doing was with AGV:s - automated guided vehicles. Mainly used in industrial applications, AGV:s automate a variety of tasks, most of them related to transfering loads and products in the manner of forklifts. While it sounds simple, these system often contain several robots performing complex operations in a limited space, all while being both fast and safe. Being an intern at Amerden means a lot of responsibilty right from the start - all the work you do in the office is more or less a preparation for going into the field and installing the systems. And as it turned out, after a few weeks the both of us were both assigned our own on-site project to be done during the end of the summer. This meant studying all the components of the AGV, preparing and planning the layout of the system, along with determining and coding the operations to be done by the robots. And once out on the field, you better hope everything goes as planned, which of course it never does. But in the end, you really can't beat the kind of real-life experience you get from actually solving real problems in real situations, which was incredibly rewarding after four years of studying theoretical problems. Knowing that the systems you design would continue to run for possibly decades was also a pretty mind-boggling fact. Who knows, we might revisit the sites in a couple of years and see how they're holding up! As a side note, at the time of writing we're both staying at a hotel at Chester (pop. 5000), South Carolina, having been on the road almost 2 (Nils) and 3 (Olle) weeks, respectivley. It really feels like you get a chance to see the US outside of the typical tourist areas - which of course, has its pros and cons. Suffice to say, we have eaten all the american fast food we could ever desire.

Besides working, our plan is to travel as much as possible. Our biggest trips so far has been down to Orlando - the first time was to see Guns n' Roses live. Neither one of us had ever listened to more than say, 5 songs by the band, but by chance we got the tickets for free. We felt slightly out of place as we took our seats, but die-hard fan or not, it was still a pretty amazing show. We also took a trip round to Universal Studios, and exprienced the full-blown american themepark experience. As Olle is a big Harry Potter fan, we spent a lot of time in the replications of Diagon Alley and Hogsmeade, while Nils was happy enough nobody actually called him Harry Potter. We actually barely rode any attractions, the scenery and the setpieces were overwhelming enough. Still, we haven't explored even half of what Florida has to offer - we still need to visit Kennedy Space Center, explore the Everglades, watch ice hockey in Tampa, take surfing lessons, visit Disney World - the list goes on. Our latest plan is to take advantage of our location and instead of doing the classic west coast roadtrip through California, take the opportunity to do it on the east coast instead! Getting up to Maine in the fall, driving down through the coast and visiting Nantucket, Boston, New York and all the intersting places along the way. We've heard nothing but good things about the area, and it will be exciting to go where few swedes have gone before.

All in all, it's going to be an incredibly exciting year - we really have no idea where in the US the next trip is going to take us. Even now there are rumours of a project in Seattle, which we are both preparing to fight the other one for. And whenever we are tired of travelling, we know there is a place by the beach we can return to, just for us. Still bragging, it's great.

Nils Carlsson & Olle Svanström

WHOLE LOTTA ROSIE

A start-up on the east coast! A physicist writing SQL queries! Secret greetings and rooms not being what they appear to be. All this and more as you read on.

Britta Thörnblom
Age: 26
Education: B.Sc Engineering Physics
Best US memory: Our CEO confusing Switzerland and Sweden on my first day.
Duration of internship: 1 year

Rosie App
Location: Ithaca, NY
Number of employees: 30
Web: www.RosieApp.com

After reconciling with the fact that I wouldn't get an internship and deciding I would spend the summer finally getting my scuba diving certificate, I got an interview with a online grocery company called Rosie. I think all job interviews are at least partially scary, but doing one over Skype in english for a position I wasn't sure I had the qualifications for? I was terrified. The interview came and went. I talked to the head of development and the company's CTO and they really scrutinized my programming skills. (As a physicist my guilty pleasure programming favorite is MATLAB, which I obviously couldn't admit). After the longest week in the history of life, the universe and everything, I got an email from Rosie. They wanted a second interview. I had mixed emotions about this. Couldn't they make up their mind already? The second interview was with a third guy from the office. This interview was different, we talked about maths and my favorite classes from my master's programme, but I was still terrified. (I said tensor notification instead of tensor notation approximately 5 times in 20 minutes). What is interesting about these embarrassing memories of interviews compared to reality is that the scary CTO from my first interview housed me in his guest room for a week when I got here. He got me a cake for my birthday (the significance of which I assure you increases non-linearly with the distance between you and your home), we have bonded over shared nerdiness and in a very brave moment he and his fiancée even tried Djungelvrål. And of course the other guys are amazing as well.

So where did I end up after these scary interviews? Rosie has its roots in Cornell University, which is the reason for its location in Ithaca, New York. This is kind of atypical since Rosie is a tech start-up, and these usually pop up on the west coast of the US. Ithaca is a gorgeous little city with a population of 30 000 and also home to the previously mentioned Cornell University. I'm not a city person in the least, even Gothenburg makes me feel like I'm locked into a concrete box, so I real-

ly appreciate how close nature is, no matter where you are in Ithaca. There are waterfalls, lakes and forests everywhere and as you enter the town by car you pass lots of fields and farms.

I had never worked at a start-up or even at an IT company before coming here. Based on visits to offices in Sweden and what I had seen online, I pictured ball pits, video games in the break room and fridges filled with beer instead of lunch boxes. For Rosie, some of the stereotypes are true, and some are not. For the development team, the day starts at 10am with the company wide stand-up meeting. By that time, HR, sales and some other teams have already been in the office for a couple of hours. Entering the second floor at 09:58, you will probably be greeted by Beowulf, Chief Moral Officer of the company. During stand-up, everyone briefs the rest on their current work progress and gives PSAs. If you've done well you usually won't get applause at Rosie, instead

> "The stand-up ends with a secret synchronized salutation and the barking of our CMO

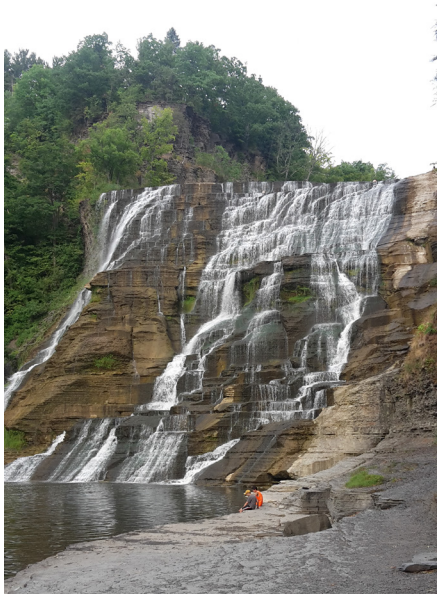
people snap their fingers at you. The stand-up ends with a secret synchronized salutation and the barking of our CMO. I couldn't make this up. After this, it's time for dev stand-up. We tend to gloss over the nerdy details of our work during the first stand-up, (or the rest of the company wouldn't hear us out) and this is our opportunity to share them with the other developers. This meeting also ends with a secret salutation, specific for the development team. On a good day, someone from the development team has dognapped Beowulf to our floor and he might have a pre-lunch nap in my lap while I start the day.

It took three months from my first interview to when I arrived, and in that

time span, Rosie had hired six people. This rapid expansion is apparent in the office. Initially, Rosie was housed in a repurposed apartment on the second floor, which it soon outgrew. They expanded to the third floor and two weeks before I arrived the development team got the much needed fourth floor. The interesting thing is that in the expansion, the third and fourth floor were never actually rebuilt so our office floors are actually apartments. This, combined with a naming convention based on fruits, means that when you step into the Apple Conference Room you are actually entering a fully functional kitchen with Obi-Wan Kenobi and Luke Skywalker looming over your meeting. (The Apple room is on the fourth floor and we have life size cut outs in every room except the bathroom). With the duration of afternoon meetings and the unrelenting sun, we often open the fridge doors, defy thermodynamics, and pretend we have an AC.

There are several signs of the company's growth. Often when I leave my desk to go downstairs to the actual kitchen (the upstairs one might look like a kitchen, but don't let that fool you) for a coffee refill, I pass the CEO or someone from sales or marketing on the phone with a client. Sometimes the stairwell is is the only place available for a call. We have no ballpits (most of our furniture is either donated by the employees themselves or acquired on yard sales) and no video games in the office. However, during the company wide meetings there are snacks, ice cream and beer, and when the fourth floor works overtime, alcohol is sometimes a welcome inspiration source.

In between snapping our fingers, playing with Beowulf and making coffee runs to Collegetown Bagels, we actually get some work done. Rosie does not sell groceries directly, instead our clients are grocery chains without in-house support for online sales. To any CAS-student such as myself, this means one thing: a huge amount of data ready for analysis. Since Rosie's current recommendation engine is in desperate need of upkeep, revamping



and/or a well placed bullet, I research algorithms for the next version. While I prefer testing my algorithms in Python, this has also meant learning SQL to communicate with databases, handling the (sometimes) noisy data of a real life application, and optimizing while keeping all functionality and prioritizing readability. I have also learned Scala to be able to decipher the existing recommendation engine, as well as nearly memorized the source code of Apaches Mahout project. (Spoiler alert: it is not as optimized as you might expect). And as we all know, everything is actually written in Java. One of the reasons I was hired is that the team wants to apply machine learning to their recommendation engine, so my job at this point is basically to research algorithms I think might work well with our data, apply them and then evaluate the results. In other words, my job is basically me nerding it out with some of the coolest things I know. Hopefully I got the point across with the examples above, but my job is versatile in a way I don't think is possible outside of a start-up. One of the greatest things about working at a small company is that I get to be the best at something even

though I'm surrounded by extremely talented people. And the feeling of showing off a clever optimization or a new implementation to these people is amazing.

Britta Thörnblom

WHAT DID THE BUFFALO'S FATHER SAY WHEN HE DROPPED HIS SON OFF FOR KINDERGARTEN?

In June I boarded a plane that was going to take me to my life's biggest adventure so far. I had no idea how things would turn out. Now I know, and it is absolutely awesome.

Jonathan Nilsfors
Age: 25
Education: B.Sc Software Engineering
Best US memory: All the amazing meals at five guys
Duration of internship: 6 months

BISON
Location: Boston
Number of employees: 20
Web: www.bison.co

My first ever trip to the U.S began on the 14th of June 2016. I took a plane from Stockholm to Oslo and from Oslo directly to Boston. Even though my second flight was delayed a couple of hours I found the trip rather comfortable. On arrival I was greeted by my friend and past years CETAC member Hampus together with my soon-to-be supervisor Waldron. I remember that I experienced a strange feeling when being escorted to Hampus' apartment where I had the pleasure of staying my first two weeks. It was a surrealistic feeling. I couldn't really grasp the fact that I was actually in Boston and that I was going to spend my next coming six months there. I was very excited about it but still, I had no idea about how it would turn out.

It has now been two months since I first sat my feet on US soil and I must say, I have really enjoyed my time so far. Boston, with surroundings, is very charming. It is kind of small, the people are nice and there is lots to do. The climate is reasonably similar to Sweden but it is considerably warmer during the summer. Temperatures up to 35 degrees celsius are not at all uncommon and it is often quite humid which makes the perceived temperature even higher. I would strongly recommend any person that is going to spend a summer in or around Boston to consider an apartment or room with an air conditioner. Me myself, I have two fans and should definitely have listened to the people advising me to get an AC. But fear not, Boston offers more than heat. There are museums, parks, pubs, restaurants, the harbor and much more. There is basically something to do for everyone in Boston. If you are into sports, as I am, Boston might even be the ideal American city. We have the Bruins, Celtics and Red Sox just to mention a few. I am going to a Red Sox game with my supervisor and his friend Steve in a week. That is going to be awesome. I am also very excited about the hockey

and basketball seasons that begin very soon.

I live in Cambridge just about 8 minutes walk from Harvard Square. There is always something happening in or around Harvard Square. For example, when the new Harry Potter book was released, an outdoor cinema showing the first Harry Potter movie was hosted on one of the smaller streets. People basically just brought chairs or sat down directly on a blanket on the street. I have my own room in a 4 bedroom apartment. I share the apartment with one german girl, one vietnamese girl and a french guy. The apartment is located very convenient to the red T-line which takes you to central Boston in about 15 minutes. It was not trivial to find a place to live in. I had to email many craigslist advertisers before I eventually found the room I currently rent. The rent here is much higher than in Sweden. If you want to live reasonably close to the central parts you have to be prepared to pay for it. And it is not necessarily a very high standard. But since I spend a lot of time at work or with friends, I do not really care that much.

> The fact that I have always been working on real, meaningful projects has made me feel more as a regular employee than an intern.

I work at a startup company called Bison. We provide a platform for people in the private equity market. Basically the platform helps general and limited partners to keep track of different numbers, funds and other information that they consider important. The development team consists of seven people including myself. My daily work includes almost everything that is within web development. I'm working with sql, mongodb, python, sqlalchemy, knockout.js just to mention a few languages/frameworks. For my first weeks I worked with creating an internal interface for the research department to handle the data in our system. I got to do everything from the actual views, the logic behind them, the endpoints in the api and handling databases. It was a great experience and it felt good to work on something meaningful for the company from day one. The fact that I have always been working on real, meaningful projects has made me feel more of a regular employee than an intern. That is also the way I feel I am being treated by the other employees. No one really sees me as an intern, although it's good to have as an excuse when people find bugs in my code. "Well I'm just the intern, don't expect too much from me".

One more thing that is worth mentioning is that New York is only a four hours bus ride away. I have already been there twice. The first time I met two past years CETAC members that had spent a year in California. The second time was with my girlfriend. New York is really something special. There are so much going on all the time. The traffic is insane and almost every car has scratches or cambers. But there is definitely a lot to see. My girlfriend and I managed to see Rockefeller Center, the Statue of Liberty, the American Museum of Natural History and much more.

Jonathan Nilsfors

STARTED FROM THE BOTTOM
NOW I'M HERE

No, actually I started below bottom, underground, in a basement. Now I am here, waking up to the Manhattan skyline every day. It certainly is a dream come true.

Erik Nordmark
Age: 29
Education: B.Sc Software Engineering
Best US memory: Drake Summer Sixteen Tour at Madison Square Garden
Duration of internship: 6 -12 months

SKIM
Location: New York
Number of employees: 25 (135 global)
Web: www.skimgroup.com

It is February and I just booked flight tickets for me and my girlfriend to New York. Not for work, for vacation, of course. Back in February a job in the US felt very distant, a job in New York even more. If I knew back then, that I would work in New York this summer I would probably have traveled some place else for vacation...
But one thing led to another and one night I received an email that I got a job, in New York for a company named SKIM, as a web developer. I love New York and I have been here several times before. To be honest, I did not care that much what type of job I got, I could clean toilets at McDonalds as long as I got to live in New York, the city is simply that amazing.
Anyway, now it was as it was, and I was going to move to New York.

SKIM is a market research company located in Hoboken, just across New York City, with only the Hudson river in between. I was going to be the only developer in the office so that was a bit scary. I came in touch with SKIM when we did our bachelor thesis. We helped them develop a module to their cloud service. So if you are interested in working abroad that could be a good way in. I was hired to develop a tool for one of their surveys. I was going to work with the MEAN stack, that is MongoDB, Express, AngularJS and NodeJS. I had worked with that during my bachelor thesis, and liked it, so at least that felt good. Another good thing was that I was not going to be the only intern from Chalmers. Two members from Amcip, Artin and Martin, was also going to work at SKIM, and that felt comforting.

After one week of vacation in the city I started to work and the people at SKIM where really great to me from the beginning. It is something of a challenge to work alone, especially for me as a specialist front end developer. Back at Chalmers I could always ask the back end guys to do all the things that I could not, but now I am forced to do those things by myself. And as much as it is frustrating to do that, it is extremely educational.

The life in New York is somewhat extreme. There are endless things to do, but at the same time it is very expensive. Every weekend there is multiple concerts, rooftops, bars and other events to choose from, but you have to choose carefully and really cherry-pick from the best.

> "As much as it is frustrating to do that, it is extremely educational.

I began this article by telling you that I started in the basement. By that I meant the company apartment that I stayed in until I found a place of my own. That proved to be harder than I first had expected. But after two months and many, many emails to people on Craigslist and other sites I finally found a place. The apartment was in Newport, New Jersey, same side of the Hudson as the company. I was going to share the apartment with two others, but they seemed cool. Apartments in the New York area are very expensive, so it is very common to share. The apartment was great. Manhattan skyline as the view, pool right next to the river, gym and 25 minutes walk from work. I could not have found anything better.

Apart from work I tried to soak in this opportunity as much as my wallet could handle during my spare time. Together with Martin, Artin and Fredrik, another AMCIP intern in the area, we took Fredriks car to go hiking one weekend. We traveled upstate to a small city called Cold Spring. There we did some hiking in the woods and some bathing in the Hudson river. Another weekend we visited the music festival Panorama at Randall's Island here in New York. On midsummer New York City actually hosts the world's biggest midsummer celebration at Battery Park in Manhattan, cohosted by the Consulate General of Sweden in New York . Hundreds, if not thousands, attend the celebration, both Swedes and Americans.

Another weekend getaway I really can recommend is to travel to the Hamptons. It is about two hours from New York City by car. My girlfriend and I traveled there for a weekend in the middle of August and it was amazing. It is pleasant to get away from all the noise and stress in the city sometimes and the Hamptons is a good retreat. We chose to spend our time at first class beaches and we also had time to do some wine tasting during our stay there.

Erik Nordmark

MASTER'S PROGRAMME

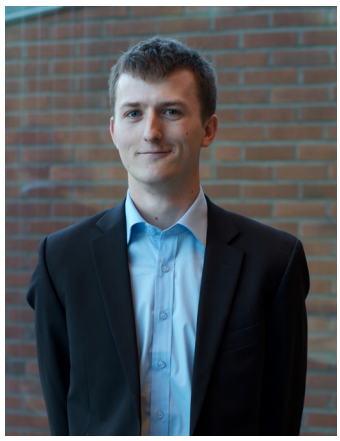
INTERACTION DESIGN AND TECHNOLOGIES

Design of technology for human use
Interaction design is the practice of designing interactive digital products, environments, systems and services. The focus is on interactive systems and behaviour; how users act and how products respond to user behaviour. Interaction design is the key to any design project aiming to create complex and computer-based systems that are to be used by humans, e.g. software, games and interactive products like smart phones, MP3-players, "intelligent" homes, cars and clothes.

With today's development in technology, the possibilities for applications are endless.

CHALMERS
UNIVERSITY OF TECHNOLOGY

STARGAZIN IN D.C



Have you ever looked up at the non light polluted night sky and thought: "I wonder if you can point two antennas at that star and calculate the distance between the antennas using signal processing and basic trigonometry"? If that is the case, you are a special someone, and would greatly appreciate working with VLBI at the Goddard Space Flight Centre in Greenbelt, MD!

NVI Inc. is a contractor, contracted by NASA for the past 40 years, at the Goddard Space Flight Centre. Goddard is located 30 minutes northwest of Washington, D.C. and houses the largest collection of scientists, engineers and technologists in the US. At Goddard, NASA controls the Hubble Space Telescope, sends satellites to Jupiter and builds equipment that is on board the Mars rover Curiosity! You could say that Goddard is quite a big deal. It has been inspiring to work here; to wake up in the morning and think: "Today I am going to work, at NASA."

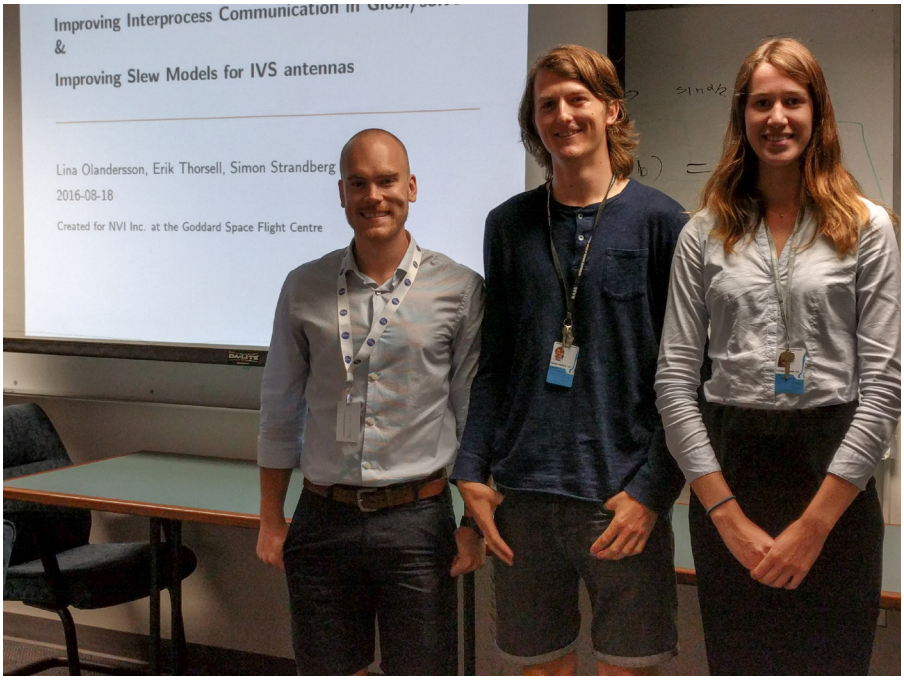
NVI is devoted to VLBI (Very Long Baseline Interferometry) a technique which boils down to: having an antenna look at something in the universe, often quasars, which are super bright sources of energy, and derive infor-

Lina Olandersson
Age: 22
Education: B.Sc. Engineering Physics
Best US memory: Indoor Skydiving at the Niagara Falls!
Duration of internship: 10 weeks

Simon Strandberg
Age: 23
Education : B.Sc. Engineering Physics
Best US memory: Seeing wild black bears in Shenandoah national park
Duration of internship: 10 weeks

Erik Thorsell
Age: 24
Education : B.Sc. Computer Science and Engineering
Best US memory: Camping in the wilderness and wakeboarding with my so.
Duration of internship: 10 weeks

NVI Inc.
Location: Greenbelt, Maryland
Number of employees: 13
Web: www.nviinc.com



mation using that source. By having multiple antennas looking at the same source one can correlate the difference in arrival time of light from the source, between the antennas. This information can then be used to calculate the distance between said antennas using trigonometry.

There are many VLBI groups all over the world and they all work together. The information the groups provide is used for multiple things, counting: how to determine the movement of the tectonic plates, how the sea level changes, and calibrate GPS data. VLBI is also the reason we now and then have a leap second, since VLBI also determines the Universal Time (UT1). You may be unfamiliar with UT1 but you certainly should know about Coordinated Universal Time (UTC). UTC is the time used all over the earth - with the addition or subtraction of a couple of hours depending on where you live on the planet - and is calculated using atomic time and UT1. If UTC was solely determined by atomic time, 12:00 would eventually occur in complete darkness due to the earth's inconsistent rotation around itself and the sun. By adding a leap second every once in awhile (in accordance to UT1) the difference between UT1 and UTC (UT1-UTC) is kept within +/- 0.9 seconds.

During our stay at NASA we spent little time concerning ourselves with VLBI directly. Instead, our 10 weeks were spent working on two software projects. The first project was to optimize how the main analysis software used for VLBI (Calc/Solve) handles its input and output of data, while processing said data. Not only did this entail diving into an enormous code base. The software has its origin in the late 70s and it is written in Fortran.

> "to wake up in the morning and think: "Today I am going to work, at NASA."

There is a lot of legacy in the code at NASA. Since large parts of it was written before the three of us were born, the hardware of the computers at the time was often the limitation when developing things. For every VLBI session there is large amounts of data being recorded. This data then has to be processed in some way. This processing takes place in multiple stages, and the program we worked on is doing the final stage of this processing. When doing the processing the data has to be sent back and forth between different programs. Since computers generally could not hold that much information in memory at any given time a couple of decennia ago, this was being done by writing the data to the hard drive from one program and then reading it in from another program at a later stage. Because this process then is repeated many times, this is a rather ineffective way of doing things.

Our second project was more closely related to the actual VLBI measurements. In order to keep the antennas correlated during the sampling sessions, they run according to a schedule. This schedule tells each antenna how to rotate in order to find a given source (quasar). However, NVI has found that occasionally, antennas do not reach the source on time. That is, they expect the antennas to rotate faster than they actually do. Using the model currently in use by NVI to determine the theoretical time it should take an antenna to reach a source, and comparing this with the actual time (given by each antenna's log file), we were able to suggest a better model.

The working conditions at NVI can best be described as freedom under responsibility. It is a relaxed atmosphere, and you are responsible yourself for getting your job done. We usually gathered at the office about 7:45 after Erik, being a morning person, had

spent some time at the gym. The rest of our colleagues usually dropped in a couple of hours later to avoid the morning traffic on the Beltway. Being in the office earlier than our colleagues also meant that we could leave earlier and this left us with time to explore the D.C area.

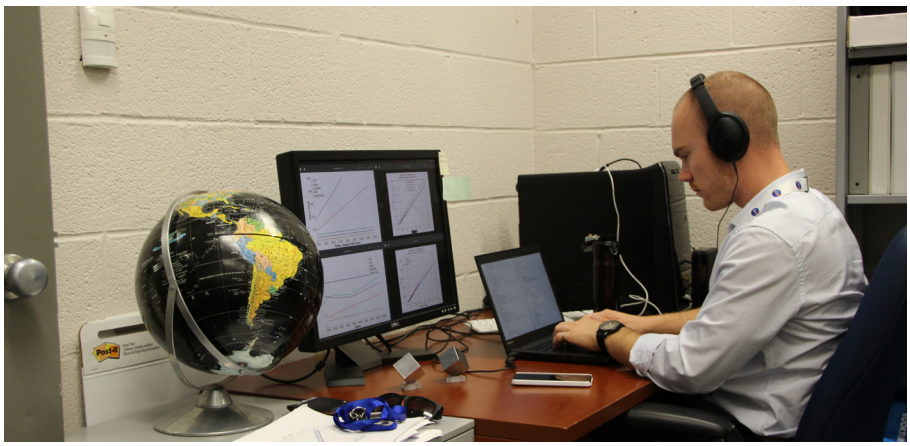
In early communication with our boss we were told the dress code was business casual. Turns out he meant more casual than business. Shorts and t-shirt was the go-to choice for most people in the D.C area summer heat.

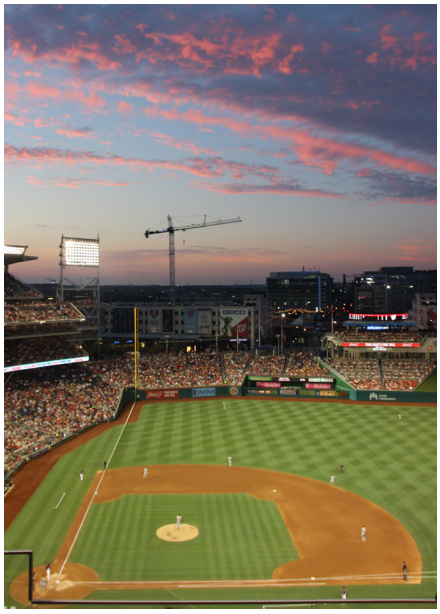
When in the U.S. you almost have to watch at least one game of baseball. Despite being warned on numerous occasions about the slow pace of the game, how difficult it was to keep interest throughout all the innings, how strange it may seem to an outsider how big this sport really is and how outright boring some people find it, we still decided to watch at least one game at the Washington Nationals stadium in downtown DC. Being prepared for utter boredom, it was surprisingly entertaining. Even if you don't have the slightest interest in the sport itself, just being there, experiencing the atmosphere at the arena and the joy of the people is reason enough to give it a try. Of course good company and lots of snacks help to keep the mood on top through the event, and once you get the hang of the rules becoming a fan is not far off!

While on the topic of taking recommendations from Americans: There

are lots of stories about transportation in America. Most people say you can get nowhere without a car. That is perhaps a truth with modification. In the DC metro area you can at times get nowhere with a car either. The Beltway, the great road that encircles this nation's capital, is often called "the grand parking lot" by the locals. If you do not choose your commute carefully, you will have to be prepared to spend some time at the roads. Also, for a country built on having access to places with cars, the roads are in surprisingly bad condition. Not that all Swedish roads are a pleasant trip all the time, but you can at least take your car to a major city and not have to reflect whether your laundry had a more tranquil ride in the washing machine at home than you had on your way there.

Apparently Sweden is not the only country in the world that has made it their national sport to mock the public transportation system. The Metro in Washington DC also gets it fair share of critique and sarcastic tweets. The shortcomings of the Metro is as safe a conversation starter as the weather. Not that Americans in general need help starting conversations. Speaking to complete strangers and being overly nice is not something that invokes a call to the police or social services. Rather, it is seen more as an obligation to always have something to say to whomever you might encounter at whatever the occasion. It is actually quite nice once you get used to the fact that random people at town are actually being nice to you and just making some polite conversation. Our employer once told us about an occasion when he flew from Vienna in Austria. When approaching the lady at the check-in desk, she immediately addressed him in English. "How did you know I was American before I said





anything", he asked. "It was easy", she answered, "because you were smiling so much."

On a more serious note. We stayed in College Park during the summer, a suburb of Greenbelt. With a 10 minute walk to the metro- and bus-station, we had no issues commuting to work. There were two buses to choose from, the shuttle bus (15x, 15 minutes) and a regular one (G14, 35 minutes). The shuttle bus left every 40 minutes in the morning and afternoon, however, one could not count on all of the buses being on time. The buses leaving Greenbelt were mostly okay, and the 15:20 shuttle bus from Goddard to Greenbelt - which was also the first bus to leave in the afternoon - was most often on time, but for some reason the later buses were almost always late - or completely absent. A shame, especially since the warm weather (seldom below 32 degrees Celsius) was anything but comfortable to wait for buses in.

Staying in College Park, our house was also within (Swedish) walking distance from two grocery stores. One small "all organic" store, and one bigger (Shoppers). If this had not been the case we would have been in for some serious consideration regarding buying or borrowing a car, but with food and work reachable by bus we were all set.

Back to positivity! If you stay in the DC metro area for a couple of months, there are a couple of things you have to do and see. Most of the seeworthy things are located around the Mall. The White House, the Capitolium, lots of different monuments and memorials and a vast collection of museums. Standing in the Lincoln memorial at the western end of the mall and reading the words of the famous Gettysburg Address gives you a sense on what grounds this country was built on. It tells you what great ideas and ideals was important to the presidents and the people of the past. Without taking any political sides, let's just say that it makes the current political debate seem both important and horrifying. And it also suggests that the modern age indeed seems to have deteriorated our ability to express ourselves in words, judging from the presidential nominees of today. These are both interesting and scary times to live in America and take part in the daily debates.

But exploring central DC is not all one can do. Thanks to newfound friendships and colleagues our time here has allowed us to do so much more. Exploring national parks, rivers, mountains, endless beaches by the ocean, visiting neighboring cities such as Philadelphia, New York and even Niagara in Canada. Rock climbing, wakeboarding, and lots of other stuff are just a small portion of what we have done here. Having arrived early June, we got to Goddard Space Flight Center and greeted our new colleagues. When we left in the end of August, it felt sad to say goodbye to friends acquired during the summer. The people at NVI have been so incredibly welcoming and caring for us during our internship.

In the end, being a part of CETAC, and attending these internships, is about getting the chance to explore. Both the world and oneself. You get to experience a lot of new things, meet lots of new people, but maybe most importantly: learn what you are capable of yourself. It is truly something different, doing real work and research in the industry, in comparison to studying at a university. It is very humbling to realise how little you actually know. But maybe more importantly, it is very invigorating to realise how much you have already learned. These three months in the US have really taught us that after three years at Chalmers, you are capable of quite a lot!

Lina Olandersson,
Simon Strandberg
& Erik Thorsell

WHAT'S FOR DINNER? LAX!

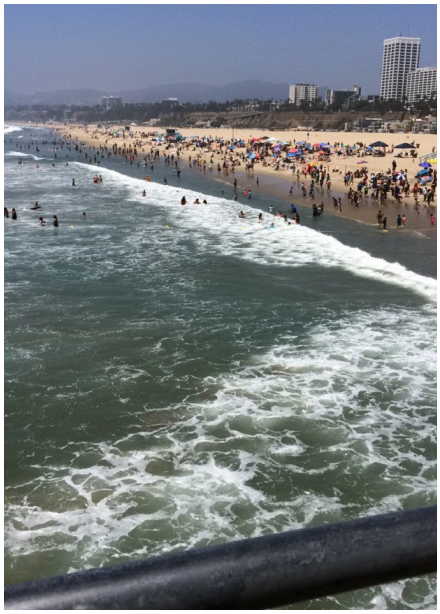
The first thing that struck me when I walked out the doors of LAX for the first time was the heat. It was the same type of heat explosion you can feel after finally deciding to escape the Swedish summer and go to Spain, Thailand or any other country where you can actually walk around in shorts all day not worrying about when the rain will start pouring down. The second thing that struck me was that this summer paradise would be my home for the upcoming year, which felt kind of insane.

Malin Dahl
Age: 22
Education: B.Sc Engineering Physics
Best US memory: Twilight concerts in Santa Monica
Duration of internship: 1 year

Tribogenics
Location: Los Angeles
Number of employees: 60
Web: www.tribogenics.com

I didn't just come here for the perfect weather though, the main reason was to work as an intern for a company called Tribogenics for a year. Tribogenics is developing a portable x-ray source using a brand new technology that one of the co-founders discovered while doing research at UCLA. In short, the technology used to generate the x-rays is based on static electricity, the same type of phenomenon as rubbing a balloon against your hair and making it stick to a wall. The only difference when applied to the x-ray source is that all of this is performed under vacuum and it uses other types of materials than balloons in order to reach high enough energies to produce x-rays. This is the first time anyone uses static electricity for something useful (except making that balloon stick to the wall for a couple of minutes) and it's really exciting for a physics student like me to be a part of the research of a technology that people still know very little about.

So what can a physics student like me contribute to a technology I knew nothing about? The answer is A LOT. I'm currently working together with a team called "core tech" which does research on the core technology and testing out new ideas they get from previous experiments or theories they've read about in scientific articles. That means that I get to build my own setups from scratch to test these theories, perform experiments, program Python scripts to analyze the data and so much more. One of the best parts about working here is that no day is like the other. I was quickly given a lot of responsibility and freedom and everyone sees me as part of the team, asking about my opinions and how I would proceed in similar situations, which feels great but is a little bit scary at the same time. I can definitely say that all of those stressful hours of studying are finally paying off and I've been using tons of knowledge I've gained at Chalmers that I never thought would come to any good use.



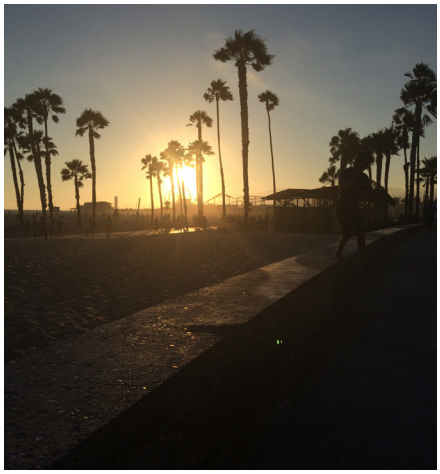
Apart from work, as I mentioned before, living in LA is kind of like being in a summer paradise on constant vacation. The weather is always great, it's a big city and there are tons of nice people wherever you go who don't hesitate to come up and say hello or give you a compliment on your shoes. My plan when I first arrived here was to stay at a hostel for a month while searching for my own place to live at and then move on, but now two months later I'm still living at the hostel. It's not because it's hard to find a new apartment but rather because I've fallen in love with the place and the people who live there. Some have lived their entire lives in LA and can give you great suggestions on what you shouldn't miss out doing, while others are more like me - from other states or countries with great stories from their hometowns, and most of them are just my age. It's usually not that hard to convince someone to tag along to the Hollywood sign, spend the day with you at Venice beach or just to come doing something really touristy that the locals aren't that fond of doing. There are also a lot of people my age working full- or part time at Tribogenics who are really nice as well and it's not uncommon that people go bowling or play basketball after work.

> "So what can a physics student like me contribute to a technology I knew nothing about? The answer is A LOT.

LA is a big city and as the swede I am I thought that continuing to travel by bus to work and everywhere else I wanted to go to was a great idea. So I got a monthly tap card and was good to go, but LA is a "car city" and everyone drives everywhere. You shouldn't be surprised if the bus doesn't turn up or if it takes 1.5h with multiple buses to go to the beach, a distance that would normally take 30 min by car. I still haven't got an American driver's license or car though, mainly due to that most drivers here seem quite reckless and because the hostel is situated at a pretty good location where it usually only takes an hour going to the main attractions. One good thing about taking the bus though is that you meet new people. Americans love telling their life stories and how they're living the American dream which is really quite fascinating and very different from living in Sweden.

I'm really excited to continue living in my summer paradise for a year, exploring LA (which seems like an impossible mission since it's such a big city), travelling around California and hopefully celebrating New Year's in New York. At the same time I'm looking forward to the experience and all the knowledge I'll get by working at Tribogenics while contributing to improving their x-ray source before going back to Sweden to work on getting my Master's degree.

Malin Dahl



HOW MANY BITS ARE THERE IN A BYTE? OTTA-WA!

Who would have thought that we would end up working at a Swedish company in Canada? Or the fact that we're in Canada and not in the US. But, after two months at Ericsson Ottawa, we're both convinced that we made the best choice we could have when we accepted the offer of a 12 months internship at Ericsson Canada Inc.

We got off to a great start, both arriving in the country less than 12 hours before we were supposed to present ourselves at the reception at the Ericsson office in Kanata, just outside Ottawa. We had booked an apartment through Airbnb for the first month, so after border control we headed towards our new place.

The apartment was conveniently located right next to one of the large bus stations so it was not difficult to get there. Right across the street from the bus station was a modern looking, huge apartment building. It looked like our first month would be very comfortable. We crossed the road towards the building only to find out that the address didn't match what we had received in the confirmation mail. We looked around and saw a very worn down, much smaller, apartment building right next to the modern buil-

Joakim Andersson
Age: 23
Education: B.Sc.Software Engineering
Best memory in Canada: Celebrating Canada day together with the Co-ops from Ericsson.
Duration of internship: 1 year

Simon Larsson Takman
Age: 23
Education: B.Sc.Software Engineering
Best memory in Canada: Travelling home from Toronto at night.
Duration of internship: 1 year

Ericsson
Location: Ottawa, Ontario, Canada
Number of employees: 1000, (116 000 global)
Web: www.ericsson.com

ding, of course it had our address on it, darn it!

We ended up staying a month and a half in the Airbnb apartment, and would probably have stayed the whole year if it wasn't for that one moment when we decided to look around on Kijiji, (Craigslist-ish), just for fun. It turns out, what a surprise, that you can find much better places for less than airbnb if you only care enough to look for it.

Ericsson Ottawa has around 1000 employees and a major part of the employees comes from when they acquired two other companies some years ago. Ericsson Ottawa is mainly focusing on development of LTE and WIFI products and they have a close connection with the Ericsson sites of Linköping and Kista. The office is divided into areas named after the provinces in Canada. In every province there are several meeting rooms named after cities in the province, a nice way to learn more about the geography in the country! At the moment Simon is sitting in British Columbia and Joakim in New Brunswick.

Since Ericsson is such a large company there are many different fields to explore and work in, Joakim works in LTE whereas Simon works within the WiFi-department.

Joakim's job is to maintain and design tests for a LTE-Network Simulator, specifically the signal processing algorithms, and to keep it aligned with the actual LTE signal processing algorithms implemented in the 4g and eventually 5g networks. The simulator code-base is extremely big as people from all the Ericsson sites around the world is working with it in one way or another. This leads to that the work is not only confined to a team onsite, but is dependant on people only reachable by mail, as the work-schedules are completely opposite.

The work is challenging as the algorithms are very complex and the performance of them is of utmost priority as all users want as fast mobile data connections as possible. But it is also very enjoyable as it feels like the work produced makes a difference in the company. And in the beginning of September, the responsibilities increases as the other Co-ops working on the project is leaving and being replaced with new ones. This means that Joakim will take the role as a mentor of the new Co-ops and bring them up to speed with the ongoing work.

Simons job is designing and testing an application for large scale WiFi networks together with a software team of 10 people. The team has three meetings per week to go through backlog items as well as outstanding issues. In the beginning of the summer he worked with writing utilities for the project in Java as well as JUnit test cases for changes in the algorithm. At the end of the summer he worked with test scalability of deploying the application as a distributed system.

> If you watch colleagues at work closely you can see how everyone is almost exploding due to the lack of hockey discussions during the summer.

Ottawa is the capital of Canada with a population of 900 000 people and is in the province of Ontario, bordering to Quebec. In Ottawa the people speak both English and French and it is a requirement to speak both languages fluently if you are going to work in any instance for the government.
The Rideau canal crosses the whole city and in the winter it freezes to ice and you can actually skate through the whole city. The general feeling of Ottawa is that it is like a smaller town, but certain areas downtown feel like a major city

Kanata is a suburb to Ottawa were 'Serious Tech happens'. In Kanata the most of the high tech are in the tele-

com industry. A lot of key competitors to Ericsson has offices in this area e.g. Nokia, Huawei etc.
An easy comparison of Kanata would be Kista to Stockholm, Lindholmen to Göteborg, Sunne to Karlstad and Edsleskog to Åmål.

We are for the moment (and hopefully for the rest of the Co-op term) living in a condo on the 17th floor close to Britannia Beach. Inside the building we have a gym as well as a pool that will be very useful in the cold winter. On that note, let's talk about the winter. People here can't stop talking about that it's too hot in the summer, as well as how extremely cold the winter gets. They will tell us these crazy stories always happening when the temperature is as low as -40°C and finish up with, just wait and see. But we're engineers we don't just sit around and wait for something to happen, we take matters in our own hands. So, question: Does the temperature fall as low as -40°C? Answer: With a quick fact check on google, the lowest temperature ever recorded in Ottawa is -36°C, back in 1944. It looks like the tendency to exaggerate stories exists here as well. When confronted with these facts they said, "well it feels like -40°C".

In Canada it's common to integrate your university education with what they call a Co-op. A Co-op is basically an internship with the difference

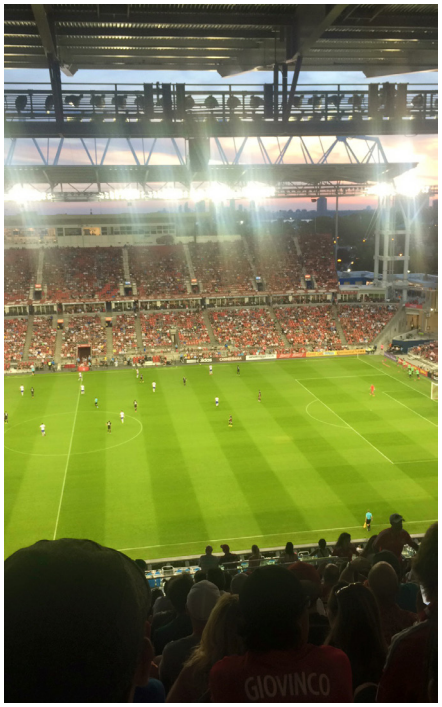
that it is a part of your education in the sense that you get credits which count towards your degree during the Co-op. This is definitely the best part of doing an internship here. Apparently there are about 50 Co-ops in total working at the Ericsson site in Kanata, we've not met them all, but we've come across at least 30. Other students made the transition from Sweden to Canada very smooth as we are surrounded by likeminded people in the same age as us all the time. It feels very natural hanging out with a bunch of them on weekends and after work.

In Canada as you may know Hockey is sacred, it's the one thing uniting the whole country. The summer however has been spared from the constant hockey discussions as the Olympics has taken the spotlight. If you watch colleagues at work closely you can see how everyone is almost exploding due to the lack of hockey discussions during the summer.

The times are about to change though, this week there has already been multiple hockey related emails. We're not saying it's a bad thing, we both love hockey and can't wait until the season starts so we can follow every little step the Senators take. It's just different and we love it.

In the beginning of July every summer, Ottawa hosts a blues festival called Ottawa Bluesfest. The Bluesfest has been here since 1994 and is one of the major events of the city. The name of the festival probably gets you a hint about what type of music it would be on the festival, but in fact it has barely nothing to do with blues anymore. The reason of skipping the blues - go where the money is. But it's not only Bluesfest that has a misleading name, in fact every kind of music festival in Ottawa is called after a music genre e.g. Ottawa Folk festival,

Ottawa Jazz festival. The Bluesfest is going on for 10 days and we decided to enter the area for some of the days. The concerts we went to was: The Lumineers, Half moon run and Red hot chili peppers. But did we find any major differences between Bluesfest and a similar festival in northern Europe? Besides of the possibility to drinking beer at the whole area and bring your own chair (BYOC), not really.

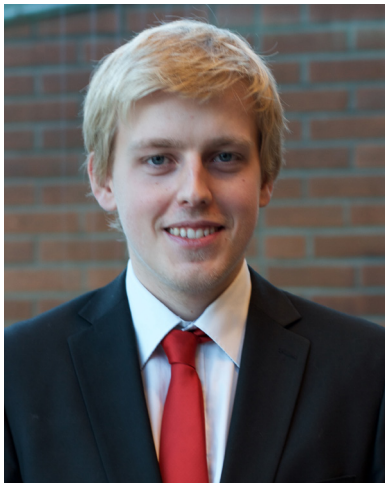


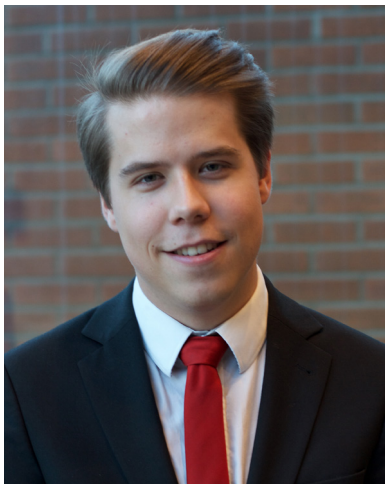
We and one of the other Co-ops at Ericsson decided to go to Toronto over a Saturday (it takes 4.5h single way) to go to the amusement park Canada Wonderland and watch a soccer game. Canada Wonderland is Canada's largest amusement park with A LOT of rides. To make it realistic for us to catch all the rides we bought a fast lane pass - so we could skip all the queues. And now we have faced our first major difference between living in Canada vs Sweden, because even if it was super nice to skip the queue, you can really feel that this type of system is not fair at all and we are living in another society than we are used to. However, after we ran through all the rides we needed to quickly head over to the car and go downtown Toronto to the BMO field - the home of Toronto FC. Toronto FC was going to face DC United. After the national anthems for both US and Canada, it was time for the game to start. The game was really exciting, but the teams had not spent too many dollars on the players in the defence. The defence was awful and probably Bengtsfors IF in Swedish division 4 has a better defence.

We are looking forward to see what this winter country has to offer us and if we will survive the horrible winter. Well, winter is coming...

Joakim Andersson &
Simon Larsson Takman

Going from studies in Gothenburg to diving deep into complicated tech in the Silicon Valley, combined with the cultural differences of living in San Francisco. Spend one day in a tech complex and spend the next in a beautiful national park. The diversity is truly what makes the bay area what it is. This is our journey to the US.





Working in the Silicon Valley proved to be quite the culture shock coming from small Gothenburg in Sweden. Here everyone and everything revolves around one thing, tech. It might seem crazy and daunting to be in a place where everything is oriented around your profession, but it is a very cool experience. Being able to talk about your ideas surrounding tech with just about anyone in your vicinity, and being able to tell that they are sharing that passion, is what makes the startup culture here so strong. Everyone has an idea, something they want to build, and when we say everyone, we mean everyone. On our first day here we took an Uber, and as soon as the driver heard we were here for work he started going off about this startup he had, and how he was only doing Uber until that took off. He too had moved here for work a couple of years ago, and that proved to be a common theme for the following months. Seems like more than half of the people working in the Silicon Valley has congregated here from all around the world, which makes for a very interesting mix of culture, unlike anything we have back in Sweden.

Adam Tonderski
Age: 23
Education: B.Sc. Engineering Physics
Best US memory: Trip to Lake Tahoe
Duration of internship: 6-12 months

Albin Garpetun
Age: 23
Education: B.Sc.Software Engineering
Best US memory: Rafting down a river in Sacramento
Duration of internship: 6-12 months

Bracket Computing
Location: Mountain View, California
Number of employees: 68
Web: www.brkt.com

In the middle of this craziness you find two swedes (meaning us!) working at a small-ish startup called Bracket Computing. Bracket is all about bringing security to the inherently insecure world of cloud computing. This is highly sought after in a time where companies with huge private datacenters are looking to move to the cloud but still want to keep their sensitive data safe. Bracket has been working on this for about four years and is one of the most hyped startups in the bay with customers that rank amongst the most influential financial institutions in the world.

> "Everyone has an idea, something they want to build, and when we say everyone, we mean everyone

Everything hasn't been going perfectly though. Earlier this year we went through a huge pivot, which basically involved throwing aways years of hard work. Previously, Bracket tried to act as a separate cloud service provider, such as Amazon with their web service, AWS. Trying to do that proved to be too complex and time consuming though and the new product is focused on what was Brackets core strength - the Metavisor. The Metavisor is an incredibly cool and complicated piece of tech, which, to be honest, neither of us fully understand. For you tech geeks out there who want more info we highly recommend reading up on it. In short it is a virtual layer that sits between the customer's operative systems and the cloud service providers hypervisor. This unique position means that Bracket can enforce security policies such as disk encryption, network encryption, traffic rules, etc.

So what are we, the interns, doing here? Boths of us are on the QA (Quality Assurance) team. That means that we make sure the product actually works as it should. This includes writing tests, finding, reporting and fixing bugs. The role of QA requires you to have a good understanding of how the whole product works, and help to keep everything as smooth as possible. On the team we also have different responsibilities. Adam is working a lot with the Continuous Integration environment. Besides regular maintenance he has been working on a tool that dynamically manages the computation power across multiple Cloud Service Providers. Albin has mostly been working on benchmarking the new product, both for internal use and for presenting to customers. This is an example of the immediate impact you can have in a startup, since the reported numbers can reach customers in a matter of days.

The software hype culture is very rewarding, and it's probably what brings most people here. But what we believe makes people want to stay is

the surrounding culture, where you can do anything from rafting down a river to celebrating Swedish midsummer during Pride (which is by itself an incredible experience and a must-see in San Francisco).

Arriving in the US and working out the housing situation has proven to be quite the task for a lot of CETAC trainees. Luckily we had a man on the inside, Johan, who hooked us up with his former roommates who had just moved to a house in San Francisco. That's pretty much how we ended up where we live now. Our roomies are awesome and we would say that the best way to get into a new culture is to live with it. Combine that with the crazy cultural diversity that is San Francisco and you got a pair of happy Swedes on your hands. The only downside to living in San Francisco and working in the the valley is the commute. Every day we spend about an hour taking our bikes to the train and riding the caltrain to work. It isn't too bad though, since you can treat this like office hours if you want and get some work done on the way there. And you most certainly won't be the only one doing that in the morning. So yeah, the living situation we got going on is good, but if you're interested you should be warned that housing in San Francisco is very expensive, and we're very lucky to have gotten a good deal.

After staying here for about three months we've had many things going on for us, from meeting a ton of new people who introduced us to a lot of fun stuff, to learning about what the future of cloud computing might look like. There is still so much we want to do though, and it's going to be very interesting to see where Bracket will be in a couple of years.

Adam Tonderski & Albin Garpetun

CETAC 2016 IN STOCKHOLM

In September, a few weeks after our members started school again, it was time for an annual CETAC tradition; our Stockholm kickoff. In the capital we meet with prospective partners, plan the year together and get to know each other better. During the week leading up to our trip we had already made contact with a lot of companies and organizations that were interested in meeting with us, and we had an afterwork planned together with a well known Stockholm consultant agency called Netlight.

We all met up at Gothenburg Central Station to go by train to Stockholm. A suit was compulsory to bring so some came already dressed in black, while some had their business clothes with them. Once in Stockholm we all got to the hostel where we were going to stay for the weekend. Then we split up in groups; some of us went staight to meetings while some groups were exploring the city. The weather was great and Stockholm felt promising. During the evening we all went out for dinner.

On Friday we went to the afterwork together with Netlight and USAsip, the sister organization of CETAC. Netlight has a really cool office on Birger Jarlsgatan in central Stockholm. Netlight gave us a really great evening and we all had a lot of fun.

During the trip the internship coordinators held individual meetings with all of the members to see what their expectations for the year was. They also asked all the members where in North America they wanted to go, what they wanted to work with and what they are good at. This way they knew what to look for in the year to come, when the Internship Coordinators contact potential employers in North America. Everyone was really enthusiastic about already starting to consider their internship opportunities. A lot of people dreamed about moving to California, while some were more open to move almost anywhere.

During the trip we got to see a lot of Stockholm and the companies there. Among these we all went to see Spotify's headquarters. Spotify is by far Swedens biggest and most influential startup and their office is everything one could hope for; cool interior, free snacks everywhere and just in general a creative and cool vibe. We also visited King, KTH and many others. Since Stockholm has grown to be a great tech city, the interest from the members seemed high, and the interest in CETAC from different companies alike.

The Stockholm kickoff was a great success. We got a lot of interesting new contacts, and we all got a really good start for year of hard work towards our common goal of moving to North America.

Markus Andersson Norén

THE AMERICAN-SCANDINAVIAN FOUNDATION

AMERICAN-SCANDINAVIAN FOUNDATION

The American-Scandinavian Foundation is a publicly-supported not-for-profit organization committed to promoting educational, cultural and professional exchange between the United States and the Nordic countries - Denmark, Finland, Iceland, Norway, and Sweden.

As the ASF has worked with CETAC since 1980, we understand how much work and effort the members of the committee put into obtaining their assignments, and we therefore support students throughout the application process and during their internship program.

Apart from professional growth, former interns frequently note the personal evolution they experienced during their programs. Interns consistently mention the new friends and experiences that allow them to expand their views and networks, even within short spans of time. Our alumni regularly note that this was the best opportunity they'd ever taken professionally and/or personally.

It is always a pleasure to work with this group and witness their growth first-hand. The positive feedback we receive at the conclusion of a student's program is inspiring, and we at the ASF wish you all continued success in your future endeavors.

Tatiana Pashman
Director of Internships & Training
The American-Scandinavian Foundation

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A MESSAGE FROM

CETAC 2017

With the members of CETAC 2016 leaving to live the American dream, we, the members of CETAC 2017, are already getting ready for our own journey. As a member, the first year is spent in Gothenburg, arranging lunch seminars, company events, hackathons etc. Coming up in a few weeks is a trip to Stockholm to among other things visit the offices of Spotify and Netlight, as well as meeting up with previous members of CETAC (CETAC Alumni, read about them on the next page). We are also looking forward to our first real Thanksgiving (though we are quite scared of stuffing the turkey) as well as a whole night of closely watching the upcoming US presidential election.

We are all very excited to have this opportunity to go to North America for an internship. To be able to get working experience before we have even finished our studies is an amazing thing, and we are very thankful to all who make this possible. If you are a student looking for a great way to gain experience, go abroad and get a break from your studies, we highly recommend you to become a member of CETAC 2018. We will be recruiting new members in spring 2017, for a possibility to go to North America in June 2018.

One last thing, a tip for all you students out there, reading this magazine might be one of the best (or maybe worst?) ways to procrastinate out there. As much as it makes you incredibly jealous of all the people currently living the dream in North America, it gives you some motivation to just finish that exam.

Johanna Renman
Editor CETAC 2017

Words From CETAC Alumni:

CETAC 50 Year Anniversary

Of all the Trainee Reports that I have read and have had a look in, it has always been written that CETAC has been sending Chalmers students to the US since 1966. Before the anniversary party I had yet to meet someone who was actually doing an internship in the US at that time, that year. Having no registers from 1966 and no Trainee Reports and thus no names, us in the Alumni organization had to perform a lot of investigative work to find the right people. Finally, we actually managed to get ahold of the chairman from 1966, Gustaf Svensson, who was the one that, without knowing it himself at the time, started what now is known as CETAC. He gladly accepted the invitation to the anniversary party as well as a promise to hold a speech about his experiences organizing US work and the whole trip at that time.

The party was held the 3rd of September at the Wijkanders restaurant at Vasa area on Chalmers University campus, and a total of 128 people attended from 32 different CETAC years. Most notably we had seven gentlemen from the year 1966 and five from 1967. Some had been close friends since then and we overheard that some had not seen each other at all for 50 years! Either way, a lot of nostalgic conversations about work and life in the US took place between old CETAC members that sat with their friends from the same year as theirs.

All in all, the celebrations were a great success and it was oh-so-good to get so many people coming together for this oh-so-special thing that is CETAC. If you have been part of CETAC you will know what I am talking about. If not, I hope that you will apply for CETAC and come join us for our next anniversary celebrations. And if you do not study at Chalmers and can not apply for CETAC, you should know that this is a great thing we got going that we will make sure will continue for at least 50 more years!

Tobias Forsberg
Chairman CETAC Alumni

Some highlights from all speeches that evening:

• Hearing **Gustaf Svensson** (CETAC-66) talk about having to charter a plane due to SAS strike two days before departure

• **Jan Sundström** (CETAC-67) showing us a magnificent slideshow from his summer in the US

• Listening to **Dan Strömberg** (CETAC-67) describe his experiences of the original Summer of Love taking place in San Fransisco 1967. Don't forget to wear flowers in your hair if you ever go there!

• Listening to **László Balázs** (CETAC-73) talk about the importance of sales throughout his work career

• **Claes Adolfsson** (CETAC-80) describing hardships and funny moments going from analogue to digital work in the CETAC workflow

• **Bengt Ekström** (CETAC-95) giving us all we needed to know about working and living abroad for 25 years in a total of 14 different countries!

Last but not least,
• **Håkan Ericson** (CETAC-86) literally showing us how Swedish interns drink tequila in the US!

The Chairwoman Speaks

Roughly one and a half years ago, the board of CETAC 2016 was assembled, six students from the fields of engineering physics and software development with a shared challenge in front of them. The following year was packed with lessons in teamwork, company events, sales, and for me specifically; unravelling the mysterious maze that is the US visa application process. That particular challenge was made surmountable through the support and help of Tatiana Pashman of the American-Scandinavian Foundation, and I am so thankful for her patience with all my questions.

This pattern became familiar throughout the year; every time a task that seemed impossible approached us there was always someone there with support and help. Per-Anders Träff from Chalmers exchange student office made sure we all have health insurance during our internships (I know at least my parents were relieved when they learned about this). Jana Madjarova, the program director for the engineering physics department at Chalmers believed in us enough to officially endorse us. The students of the software development division put up with having us in one of their rooms (I know you need the space for video games and bean bags). We treasured that room and I suggest you reap the rewards of us having it by joining CETAC.

This year marks the 50th anniversary of CETAC and another big support for the board has been the past members. The board of 2016 would have been lost in the dark had it not been for our predecessors. Thank you for your guidance and patience with our questions! I would personally like to extend a big thank you to Robin Hammaräng, Chairman of the CETAC board 2014, for offering his help and advice.

The setup of CETAC means that before we leave on our great adventure, there's a year of organizing company events such as lunch seminars and hackathons. Without the help of our collaborators from the Swedish business and academic world, CETAC would not have survived for 50 years. A big thank you for making all of this possible (we will eventually return home with our unique experiences, graduate and go job hunting)!

On the other side of the Atlantic we have the North American companies that not only host us, but welcome us and share their culture. Leaving the stability and safety of your country can be scary for a 20-something year old, but I have yet to hear someone come back from their CETAC trip with the impression of not being welcome. The host companies also provide us with the opportunity to apply and develop our skills in our bachelor's fields. For many of us, this is a chance to evaluate what master's program to pursue when we return to Sweden. That is a significant decision and the guidance is invaluable (hands up anyone who had no problems whatsoever picking their master's).

I will end on a more personal note by thanking CETAC 2016 for the year we worked together in Sweden. I had such a blast throughout the year and I hope I was available when you needed it. It was amazing to work with some of the most ambitious and creative students of our university. I hope you had as much fun as I did and that your respective abroad experiences are as fantastic as mine is. Most of all I want to thank the rest of the guys on the 2016 board. I wish everyone could see how hard you worked to make the dream possible for all of us. Simon, who turned hard core nerds into salespeople and was always there to provide ideas and inspiration. I'm pretty sure that by now he can arrange a lunch seminar in his sleep. Adam and Joakim, the dream team that got us our jobs. I'm still amazed by the dedication they put into that and I wish that everyone knew how much they cared for providing us with internships. Markus, who threw a new website together when our old one crashed. Speaking as a person from outside the software development field, that was impressive (and he also made the Trainee Report anno 2015. Read it!). Armand, who learned accounting from scratch and by the end of the year knew the regulations of the Swedish Tax Agency like the back of his hand. You guys are the best and we will most definitely be having a beer and swapping stories when we get home!

And finally, everyone that I forgot to mention. Thank you for your help.

Britta Thörnblom
Chairwoman
CETAC 2016

THANK YOU

On behalf of the board and members of CETAC 2016, we would like to thank all our corporate partners and other contributors that made this project a reality.

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