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# Summer Internship with CERN – Sneha from Amity school of Engineering & Technology

September 16, 2014



*Sneha interned with Central European Organization for Nuclear Research (CERN) and summons all the adventures she has had during her visit to Europe. Sneha is a Computer Science & Engineering student at Amity school of Engineering & Technology, Noida. Read on to discover her exciting story of interning with CERN.*

This summer I got selected for an internship at CERN and it

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was a summer beyond imagination! This story might not be a great tale but is special for me for it was a dream come true, for it rejuvenated my faith in- 'where there is a will, there is a way', and I hope it would be as motivating for many of you as was for me. I am not an experienced writer but I am going to narrate my story, right from the application submission part, sharing how I got selected and how was my experience thereafter, because each part has something interesting and for me, it's magic!

CERN as you would be knowing is Central European Organization for Nuclear Research and has been in news forever since the Higgs Boson discovery. In summer 2013, one of my friends at NIT Durgapur in Mechanical was selected for an internship with CERN as part of some collaboration between the college and the esteemed organisation. Back then, I didn't really search what the program was. I believed that it must be some internship for Mechanical students. But it seemed that stars were preparing their own chart. In November 2013, I learnt from one of my college professors that one of my batch mates went to CERN for the industrial training and that I should apply for the same. I took it on a lighter note for I was not really sure that I would be selected. It was not until I finally came across the CERN Openlab programme again, while looking for Internships at Internshala that I finally decided to apply for the programme. It seemed mystical as to why I was being drawn to this programme again and again!

So, yes I found my Internship through Internshala itself and that is one of the reasons why I am motivated to write this story full of adventures and experiences. There were two programs-Studentships for summer students (Physics oriented) and CERN Openlabs (IT oriented-which is my stream). I applied for both and it was a long though not very difficult procedure comprising of online application forms, CV, letters of recommendation, motivation letter and some other documents. The application deadline for Studentships was 31st Jan 2014 and for Openlabs was 28 Feb 2014. Somehow I managed to submit all the documents before

deadline (which is rarely the case with me!)

So, the much awaited results came in April 2014. All this while I had been busy with my final semester examinations and other college stuff with little hope that I would be selected but optimism to digest whatever the result was, peacefully! On 2 Apr 2014, I got the mail stating that I was not selected for the Studentships Programme. My other friends whom I have asked to apply forcefully, so as to accompany me, received a similar mail. I realized that okay this was it. But the big day came when I was at my friend's house on 22 Apr 2014 for a night-In and I received a mail at midnight from CERN stating that I was selected for the CERN Openlab Summer student Programme. I was one amongst five Indians selected from a pool of 851 applicants all over the globe. I was speechless and thankful to almighty for a surprise that couldn't have been better!

The selection was one part. I had to reach CERN, Geneva on 23 June 2014 and this journey from India to Switzerland was another big thing for me. I had applied for this programme without consulting my parents for I wanted to tell them only if I was selected. Now, it was time to convince them to send me away for two months, all alone, to an entirely different country. This was difficult for me for I was a day scholar and never had a hostel experience at college or at school and this was going to be my first plus international hostel. I had no known friends accompanying me in this journey. I managed to convince my parents with a little mellow drama and help from cousins. Obtaining VISA was another milestone indeed with another story to it which I would rather skip or you will be bored!

So, on 20th June 2014, I boarded my flight at midnight and was off to Geneva on an unpredictable international journey for the first time in my life. Next day, I reached CERN where I was supposed to work on an advanced IT project with the database department. Till then, although I was already provided with some hint by my supervisor Ms. Maaike Limper, I knew not much about what I was going to do

exactly or how. About CERN, I knew it as a prestigious organization with some of the brightest minds in physics and computing working under its umbrella. But I learnt everything else when I came here.

I was provided a hostel room within the CERN premises and was able to pay the nightly rent with the stipend that I was paid. Fortunately, my room-mate arrived the next day and she was a South Indian. Like many others, I had this preconceived notion that south Indians though intelligent, have a serious personality. My room-mate made me realize that this is not true at all! Bingo, as I called her was one of those crazy college girls who can party all day. Every morning, she woke me up with her Hindi songs playlist. I had arrived at weekend, so everything was closed. So, initially I had difficulties getting food being a vegetarian but thankfully 'Maggi' came to my rescue which I had brought from India with me. Food was the only thing that I badly missed when I was at CERN (I am a foodie!) because I had to cook owing to the fact that most of the people over there were non-vegetarians! Despite being bad at cooking, eating my own food felt like heaven when I looked at the non-veg stuff available at restaurants there. The vegetarian food at restaurant used to be rice and boiled vegetables which though healthy is like the food served to patients at any hospital! Moving on from the food part, everything was much more fun than expected.

After the weekend, I finally got the chance to complete the arrival formalities, received my office key and met my department colleagues. My project was to develop a web-interface for a physics analysis database, SQLPlotter. Let me give you a brief introduction to my project. So, what is SQLPlotter? It is a C++ macro written using ROOT classes by Ms. Maaike Limper, my supervisor and my task was to develop a web-interface for this class, so that users can input a SQL Query which is then executed by the interface. Finally some physics analysis is done on database to get histograms.

Currently, CERN uses ROOT which is a C++ framework developed by CERN physics community to perform physics analysis. This is a file analysis system which uses ROOT ntuples for analysis. The approach is time consuming and I/O intensive. It requires the users to setup ROOT and install libraries every time the analysis is done. SQLPlotter explores the possibility of replacing this analysis with a centrally accessible Oracle database instead.

The interface has been developed using simple web-technologies and makes it easier for the users to do analysis using a centrally accessible database (presently a subset of LHC data) with no need to learn or setup ROOT and to install any libraries. The script does everything for the user! The project also enlightens the fact that the system may be used as an educational tool for the students interested in studying particle analysis to find exotic particles.

Doing this project was really fun. Quite often we had barbeques with the database team which was really nice. I learnt a lot of new things and the best part was that I won the best presentation award in our lightning talks, due to my supervisor's support and efforts. The entire database team was supportive and inspiring during the entire stay and work at CERN.

This is too much technical stuff to grasp, I believe, so let's move to the exciting part!

In stark contrast to my belief that perhaps this would be a monotonous project work, it was one of the most exciting, adventurous and fun-filled summer I had. It was an excellent platform to meet people from all over the world, make new friends and work in a multi-cultured and multinational environment, something that I had always dreamt of! I met people from Czech Republic, Russia, China, Vietnam, Poland, Finland, France, Spain, Italy, USA, Netherlands, Turkey, England and the list is endless. And of course Indians which is really comforting when you are abroad! Besides the project work, we had various opportunities to participate in dance workshops-Salsa and Lindi Hop, attend summer

student parties and enjoy the festivities of Geneva. I can't stop laughing when I remember that day when I rushed to a pump hall party with Bingo at night in my night suit just to get the free food and was asked for dance by a French guy. It was little embarrassing because I was oddly dressed but it was my first ball-dance on stage! Then some other students joined us and I was taught a few steps by another guy who was called Cindrella by his friends! But the most interesting part was when watching me trying to catch up with the real dancers, a man in his 60's took me and started dancing. It was amazing to see people of that age dancing freely with their partners better than their younger counterparts. Such parties were common in the campus every weekend when everyone including students, scientists, post-docs and other users and staff members of CERN joined to get relaxation after a busy week.

The programme included free trip to Zurich, Grenoble and CERN facilities. I can't ever forget the Zurich trip to Google and OpenSystems! We not only saw the city where there were more than 1000 free fresh water fountains for general public to quench their thirst but also visited OpenSystems (an organization associated with networking domain) and Google Zurich (I guess I need not introduce Google). One whole day at Google office included free breakfast and lunch and snacks. I have no words to explain my experience at the office, sliding from the office to the lunch area on a slide, it seemed that I was still a small kid in Disneyland rather than office. Apart from the fun we had, the trip was indeed inspiring. We also had a trip to Grenoble (where I saw a nuclear reactor for the first time in my life) and CMS where I could finally see one of the huge detectors that CERN boasts of!

Besides the trips organized by CERN, we had exciting weekends during which we went to Cheese Factory and Castle at Gruyeres, Callier Chocolate factory (where we tasted delicious Swiss chocolates), Paris, Venice, Chamonix and finally shopping to make the most of this opportunity. At Chamonix, we took cable cars to go on a height of over

3800 feet to get view of the highest European peak, Mount Blanc but the weather wasn't good enough to get a view. Although we didn't get the view but I could experience snowfall for the first time in my life. And this is not the only thing! We went inside an ice-glacier which though has receded to a lower height, still maintains its glory. Venice is indeed worth visiting (all the more, if you go with your partner!). The open air restaurants, the beautiful mosaic work in churches, the busy Saint Mark's square and the boat rides to all the islands, everything was exotic.

The best part was meeting a Canadian couple of Indian origin over there. The couple was really sweet. We went to the Basilica (Church) together and then for the famous Gondola ride. Our expenses for both the Basilica and ride were paid by the couple who were too modest to take the money back from us! Meeting such people on a foreign land is rare. The Paris visit was really adventurous. I went to both the cities with Bingo. We had a lot of fun watching Louvre museum, which showcases the original Mona Lisa painting, garden of Luxembourg, Pantheon, Eiffel tower and finally Palace of Versailles which was our last destination at Paris. In the evening, we had to leave for airport from Versailles but we were so mesmerized by the beauty of palace that we lost track of time and were late for airport. We ran to catch the metro, followed by train, to airport but as the Murphy law states, 'anything that can go wrong will, and at the worst possible moment!', the train started crawling slowly like a snail due to some technical fault. Still keeping our hopes high, we ran as fast as we could, only to find that we had missed the flight. It was 9 at night and we had to reach Geneva back next day. We went back to the flight authorities to ask for next flight. But it was a solution too expensive to afford, plus the flight was not available till the other night. So, we went to the train station to find a night train. Luckily, there was one. But now problems were somehow finding their way to us, as if punishing us for being lazy. We didn't have enough Euros, only Swiss francs (all spent in shopping!). All exchange machines were closed by that time. Despite requesting the concerned personnel, no help came.

So we decided to go to the train station near centre of Paris and look for something. Finally, we met an innocent Chinese guy who owned an ice-cream shop. He agreed to exchange Euros for Swiss Francs. Then we took the night train, and met another guy who had to reach Geneva early morning. He agreed to share a taxi from the point where train would drop us (the train was not direct). We slept overnight and reached some French village. From there we hired a taxi and reached to the entrance of Geneva. From here, we took a bus and finally reached CERN (I remember the movie 'Queen' whenever I reflect upon whatever happened that day!). Whatsoever happened, both the trips were great and unforgettable.

The memories are too many to share them all but I have tried to recollect everything and mentioned the most significant ones. This internship was a golden opportunity for me and I am happy that I could make the most of it. There are many things that I couldn't mention here for everything can't be moulded into words. This was my first social experience abroad, and a first time for many things- travelling alone, missing flight, ball-dance on a dance stage, first salary, first snowfall, first ice-glacier, cooking three meals in the kitchen, washing my clothes on my own and first opportunity to make international friends. Lastly, I would like to mention that the stipend was 90 CHF/day plus we got travel reimbursement which covered all my expenses including hostel and travel and personal trips. The interesting thing is that I have been able to save around 1.2 Lacs after all the fun I had. Some wise man has said that 'the best things in the world are free' and it is true indeed in my context. And yes, how can I forget to mention that I met some really crazy Greek and Russian friends. They had their own way of life, but had similar values and ethics in many respects. I learnt many good things from them. I will always remember one of the songs that my Russian friend used to play,

"Now I'm gonna tell my momma,  
That I'm a traveller



I'm gonna follow the sun"

This song suits unbelievably to my situation and always reminds me of my journey to the CERN. This internship left an indelible impression on my mind. I can never forget this experience and hope that you all have found it motivating enough to follow your dreams!

*Editor's note- Have you got an internship story to share? A chance to win cool Internshala T and other cash prizes by sharing [your internship story here](#).*

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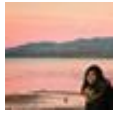
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**Rohit Kapoor** · The Ohio State University · 118 followers

Amazingly expressed and written Sneha... It's certainly clear that you have had an amazing once in a life experience

[Reply](#) · [Like](#) · September 30 at 2:05pm



**Tripti Bansal Burman** · Santa Clara, California

It is one of the most awesome stuff I have read in a while!! Way to go!! You make us proud :\* Lots of hugs and love!!!!

[Reply](#) · [Like](#) · 2 · September 21 at 8:58pm



**Hitanshu Gupta** · Faridabad

Awesome :-)  
Ultimate sneha

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**Akansh Gulati** · Microsoft Student Associate at Microsoft · 2,452 followers

Really something good for the students other than IIT's to get the exposure and enjoy the real engineering give me few tips for application that put you beyond other applicants? Thanks

[Reply](#) · [Like](#) · 1 · September 17 at 9:21am



**Sneha India** · Internship at CERN

Thank you:-) Actually the application process is very easy. All you have to do is to be patient follow each step with determination. I believe that a good motivation letter apart from the overall key factor in my case. Also, the application form is very detailed, so you must provide as much information as you can regarding your projects and experience in the form. Good luck:-)

[Reply](#) · [Like](#) · September 18 at 3:00am



**Akansh Gulati** · Microsoft Student Associate at Microsoft · 2,452 followers

[Sneha India](#) Thanks a lot :) When does the application process starts, since site is showing the details.

[Reply](#) · [Like](#) · September 18 at 3:12am



**Sneha India** · Internship at CERN

[Akansh Gulati](#) The application process starts around November and continues till Jan or Feb

[Reply](#) · [Like](#) · September 20 at 10:46am



**Prabudhjeet Astangi** · Ditr faridabad

Indeed motivational, and simply a proof for "life is like a box of chocolates"

[Reply](#) · [Like](#) · 1 · September 16 at 9:33am



**Suresh Singla**

thoda sa bada hai bus, but like it very much....

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**shantanu pandey** says:

September 16, 2014 at 11:29 AM

Very Nice,, You are good writer as well.

Reply

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**Sneha** says:

September 18, 2014 at 1:28 PM

Thank you so much:-)Just a beginner but trying to get better:-)

Reply

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**Deepika Singh** says:

November 6, 2014 at 12:57 PM

Hello Sneha,  
Indeed an inspiring article  
If you may please guide us on resume details  
And how to make sure one gets selected

Reply

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**Sneha** says:

November 6, 2014 at 1:31 PM

Hi Deepika

Try to include good projects in your resume and focus on technical skills. Also make sure that you try to fill in every possible detail in your online application form. All the best:-)

For more details about the internship, you may refer this interview:

<http://internfeel.com/europe/intership-experience-cern-geneva-snehaamity/>

Reply

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**Amandeep Singh** says:

October 24, 2014 at 11:19 PM

Ma'am

I am a first year ECE student.

I would like to know which internship to apply for and also how to build my CV.

Reply

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**Internshala** says:

October 27, 2014 at 6:10 PM

Hi Amandeep,

To write an effective resume, we suggest you to go through the blog posts [here](#).

To find latest ECE Internships, you may visit [here](#).

Good luck

Team Internshala

Reply

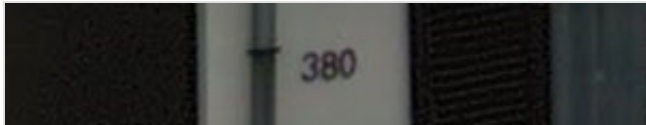

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