COMSOF

An internship at Comsof, what's it all about?

Networks make the world go around. District heating networks give us heat. Fiber networks give us super-fast internet. Smart electricity networks give us power. But who is building the software that designs all these networks? That's us, Comsof engineers. Comsof is a Ghent-based scale-up, specialized in making state-of-the-art algorithms for networks all around the world. And we would like you to join our team.

We are constantly developing our software. That's why we can offer a wide range of internship subjects. Below you can find a few examples. These topics give you a glimpse of the type of challenges we usually deal with. At your internship at Comsof you will learn aspects of graph theory and optimization algorithms to solve real world telecom and/or energy problems.

1. Optimization of spatial data structures

At Comsof we build smart algorithms. These algorithms are powered by efficient data structures. During this internship, you will focus on optimizing the performance of several spatial data structures. One of those data structures is the quadtree. A quadtree is a tree-like data structure used for spatial indexing. You start by analyzing the bottlenecks in our current implementation and improve on these aspects. You can also explore related literature to create your own spatial index and compare it to our implementation.

2. Heat source matching

In district heating networks, the capacity of the heat source is typically limited, while the nearby city district usually has a much higher power demand than can be served by the source. During this internship, you will improve the existing algorithm to find the optimum set of consumers to connect to the district heating network to maximize the profit and minimize the network deployment cost. The KPI used is the linear heat density, the heat density or a combination of both.

3. Neighbor detection on polygons

As part of our software, we apply clustering to geospatial data, to identify groups of customers that will connect to the same distribution point. We visualize these groups via geometric polygons. For clarity reasons, we would like to assign different colors to neighboring polygons. During this internship, you will first transform a set of polygons to an adjacency graph, where each node represents a polygon and each edge represents the neighboring relationship. Subsequently, you will apply a graph coloring algorithm to this graph, in order to assign different colors to the polygons.

Interested?

Send your resume to jobs@comsof.com and feel free to mention if a topic spikes your interest. Applications are open until March 8th. Afterwards we will make a selection from the pool of candidates and contact you with more info. We do prefer internships of 6 weeks, but we can always discuss the actual time allocation.

Are you interested in other career opportunities at Comsof? Don't hesitate to send us your spontaneous application at any time or check our job openings online at https://comsof.recruitee.com/.

About us
Started as a spin-off of Ghent University, Comsof has grown over the course of 20 years into a flourishing company which keeps in close touch with the state-of-the-art in ICT. Comsof's success is based on a team of highly-skilled professionals who combine experience in software development with expertise of various fields of technology, telecommunications, computer networking, and utility networks. Our team has its headquarters at Dok Noord in Ghent, and a regional office in Toronto, Canada. Moe info on comsof.com.