Master Thesis: Machine learning for cloud platforms

About us

Connected Vehicles is part of Ericsson IoT organization. Our Connected Vehicle Solutions provide everything you need to build, integrate, monetize and manage a connected vehicle ecosystem. Drawing on Ericsson long heritage of innovation within telecommunications, we help our customers and partners capturing the full potential of automotive IoT.

Description:

The objective is to investigate, evaluate and identify opportunities and challenges for applying machine learning in operating a cloud platform environment. More specifically, a cluster of virtual machines which are part of a run-time environment for Docker containers. Machine learning, and similar practices, are expected to contribute on the following areas:

- Auto-scaling of applications and virtual servers
- Automatic fault recovery
- Automatic profiling and dimensioning of resources (network, CPU, memory) for applications deployed as Docker containers
- Pre-emptively finding soon-to-be faults via anomaly detection of resources such as network, CPU and memory.

This is expected to improve the overall robustness of the system, reduce down-time, increase the level of automation, improve elasticity and resilience. Ideally, a system that is fully automated, automatically scales up/down based on demands and pre-emptively identifies and fixes problems.

The task includes investigating which types of algorithms for machine learning (or artificial intelligence, deep learning) that may be suitable for the concerned use-cases. This must include analysis of availability of input data, expected accuracy, efforts needed to implement it and how resource (CPU/Memory) demanding it would be. This also includes investigating whether or not machine learning is in fact the right way to go for all uses, or if some of them can be solved using simpler statistical models. The first phase would focus on a theoretical investigation and outlining proposals. Second phase would focus on implementing one or more use-case to verify theory vs. actual outcome in a real customer cloud environment.
Key Qualifications:

- Education: Computer science or similar
- Interest in and experience from public cloud platforms such as AWS or Azure
- Good theoretical knowledge of machine learning, artificial intelligence, deep learning and similar
- Some basic experience from TensorFlow, Amazon AI or similar

The position is based in Göteborg, Sweden. The selection and interview process is ongoing. Therefore, send in your application in English as soon as possible. If you have any specific questions you are welcome to send an email to Hiring Manager vito.cusumano@ericsson.com or recruitment specialist monal.jain@ericsson.com