**Internship Position: Reinforcement learning for Qos routing in SDNs**

The Network and Traffic Optimization research team of the Mathematical and Algorithmic Sciences Lab, Huawei France Research Center, located in the Paris area, is looking for internship candidates. The research will focus on developing machine learning algorithms to drive research and innovation in the context of traffic engineering.

**Major Responsibilities**

The Software Defined Networks (SDN) paradigm has gained a lot of popularity in the recent years. It shifts the control plane of the network from the devices to a powerful centralized controller with a global view of the network. The controller can update policies and distribute them to routers in an online fashion based on its real-time perception of the network status. Current approaches for SDN routing relies on offline optimization tools relying on Operations Research algorithms but are not efficient to deal with variations of traffic. Online decision-making tools such as Reinforcement Learning (RL) are promising approaches to address this issue.

The main objectives of this internship are the following:
1. Study the state of the art of reinforcement learning methods for intelligent routing.
2. Evaluate the potential applicability of RL solutions on a specific routing problem.
3. Implement and compare the selected approaches on an emulated network.

**Duration:** 6 months
**Location:** Boulogne-Billancourt, Paris Area
**Required Level:** Msc in Computer science / Applied mathematics.

**Additional Requirements:**

1. Good programming and scripting skills (C/C++/Java, Python)
2. Good knowledge of ML/RL techniques
3. Knowledge of networking is a plus

Please send your applications to Nicolas HUIN (nicolas.huin@huawei.com). **Successful applicants will be contacted within one month.**

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The Huawei France Research Center (FRC) in Paris is responsible for advanced research in the fields of Algorithm and Software design, Aesthetics, MBB & Home device and Parallel Computing, to create and design the innovative technologies and software platforms for our Brand.