PhD Student

Networking and IT in modern enterprises

Tutor: Prof. Giorgio Ventre
Cycle: XXXV

co-Tutor: Prof. Alessio Botta
Year: 2019-2020
My background

• MSc degree in Automation Engineering
• PhD start date: 1/11/2019
• Scholarship type: no scholarship
The main topic of my research activity is the study and optimization of networking and IT in modern enterprises.

IT infrastructure is a strategical asset for all kind of companies.

Being the network the backbone of the IT infrastructure, the problem of measuring its performance is a topic of great interest.
Summary of study activities

• Ad hoc PhD courses / schools
  • Machine Learning
  • Innovation management, entrepreneurship and intellectual property

• Courses attended borrowed from MSc curricula
  • Computer Networks
  • Big Data Analytics and Business Intelligence

• Seminars
  • Planning 5G under EMF constraints: challenges and opportunities
  • CVPL Cv & ML online seminar series: Bias from the wild
  • Adversarial attacks on image classifiers
  • IEEE Xplore Webinar: How to publish Open Access with IEEE to increase the exposure and impact of your research
  • ...

Stefano Cilio
Research activity: Overview

• Problem: Network performance measurement
  – Case of Available Bandwidth: many tools have already been proposed in literature, but
  • Their performance heavily depends on the setup and on the status of the net
  • Enterprises have changed along with the networks they rely on, with new trends like Software Defined Networks, Internet of Things, and cloud or hybrid IT infrastructure. In these conditions the traditional methods are poor performing
Research activity: Overview

• My research activities so far
  – Have focused on the application of machine learning techniques to dynamically select the most fitting measurement tool according to varying network condition

• Intended contribution (in perspective)
  – development of novel techniques to measure network performance more accurately and efficiently on the newest kind of networks
| [P1] | In preparation: Alessio Botta, Gennaro Esposito Mocerino, Stefano Cilio, Giorgio Ventre, A Machine Learning approach for dynamic selection of available bandwidth measurement tools according to varying network condition. |