
Dr. Marco Brocanelli  
Course Reference Number: 27430  
Credit: 3.00  
Class Hours: Tu.-Th. 1pm – 2:15pm

Course Description and Goals: Most of today’s user interactions with computerized systems involve two main elements: a mobile system (e.g., a smartphone or tablet), and a cloud system (e.g., cloud data centers). Typical examples of user interactions that involve these two computerized systems are sending/receiving emails, streaming video/music, and navigating the web.

In order to correctly provide the above services, mobile and cloud systems need to overcome several challenges such as ensuring low power/energy consumption, bug-free software, high performance, and high reliability. In this class, we will analyze the latest techniques that try to overcome these challenges by studying recent research papers published in top conferences and journals. The students will learn how to critique those papers and how to present them in class. In addition, the students will work on group projects that involve the design and the implementation of novel solutions that address real-world open problems. The following topics will be covered during the class (Tentative):

- Power/Energy management of hardware resource
- Energy-efficient localization services
- Mobile to cloud workload offloading
- Workload dispatching in data center networks
- Green computing
- Software analysis for bug detection

Grading: 40% paper reading/presentation, 40% project, 20% final report

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