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

Course Description and Goals: Computer vision, virtual reality, and augmented reality are three important technologies for many mobile systems including smartphones, head-mounted displays, and autonomous mobile robots. On the other hand, using these technologies in mobile applications may severely shorten the average battery life of the energy-limited and resource-constrained mobile systems. As a result, it is of primary importance to understand how to achieve energy-efficiency for the execution of mobile applications based on computer vision, virtual reality, and augmented reality.

In order to achieve energy efficiency in mobile applications, we need to overcome several challenges to ensure low power/energy consumption, high user-perceived performance, high reliability, and, in some cases, safety. In this class, we will analyze the latest techniques that try to overcome those challenges for mobile applications based on computer vision, virtual reality, and augmented reality. In particular, we will study recent research papers published in top conferences and journals. The students will have the opportunity to learn how to critique and present those research papers. In addition, the students will work on research projects that involve the design and the implementation of novel solutions that address real-world problems. By the end of the semester, these projects will translate into new research papers to be published in relevant conferences and journals.

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

Contact Address: 5057 Woodward Ave, Room 14200.9, Detroit, MI 48202

Contact Email: brok@wayne.edu