Postdoc Position in Mobile Cloud Offloading area:

We are looking for a postdoc for a joint project with General Motors on the area of Adaptive Cloud Offloading for vehicular applications.

Short Project Description:

Vehicles are increasingly relying on IT technology, both for enhancing driver experience, offering driver assistance, and supporting safety-critical applications. For most vehicular applications today, the application runs entirely on the vehicle, requiring a substantial IT infrastructure on the vehicle. This affects the complexity, cost, maintenance, etc. of the vehicle. This project explores how to leverage elastic (edge) cloud resources for complex, sensor-driven vehicular applications, as used in autonomous or tele-operated vehicles. Our focus is specifically on long-running stateful applications that are safety critical, i.e., they must be reliable and meet deadlines. Examples include SLAM and perception applications based on video and other sensor data. The project will develop abstractions for offloading this class of applications, using insights gained from offloading actual applications. Specific areas of focus include new consistency models for data that is distributed or replicated across the vehicle and the cloud, and adapting the offloading process based on available network bandwidth and application compute needs.

Qualifications:

- PhD in computer science or computer engineering
- Expertise in mobile computing, distributed systems, sensor-driven applications, localization and mapping, computer vision or other relevant areas.
- Strong system building skills

How to apply: send e-mail to Professor Peter Steenkiste (prs@cs.cmu.edu) with an up-to-date CV