General Audience Abstract

"Virtual Node Environment for the Waggle Attentive Sensing Platform"

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Waggle is a research project, at Argonne National Laboratory, designated to design, develop, and deploy a novel wireless sensor platform to enable a new breed of sensor-driven environmental science and smart city research. The Waggle platform architecture uses emerging technology in low-power processors, sensors, and cloud computing to build powerful and reliable sensor nodes that can actively analyze and respond to data. However, research and development on the platform using only physical sensor nodes can be expensive, time-consuming and tough to scale. Thus, vital objectives such as sensor plugin development, automated software testing, and stress-testing the cloud resources can be enabled by creating virtual Waggle sensor nodes. The environment that allows the creation, testing and deployment of these virtual nodes, to an infinite number, is the Virtual Node Environment.

This is a brief synopsis of my project.

As for my summer research opportunity at Argonne, I had one of the best experiences in my life, working at Argonne National Laboratory. It has always been my goal to work for a national laboratory such as Argonne, and working here this summer proved how much I could learn and aspire as an ambitious computer scientist. The project, Waggle, I worked for was very interesting and intuitive. I learned more real-life computer science applications, and implemented/designed a huge application that would serve a greater purpose for this project in

the coming years. The Waggle Team have been very supportive of me, guiding me through all complications I had undergone during my project. My fellow colleague interns were very fun to work and spend time with. The weekly seminars hosted by Argonne and the MCS division were knowledgeable, that would help pave my own career goals in the future.

In conclusion, I enjoyed this internship opportunity to its fullest, and wish I can come back next year.