ZACHARY RAUEN

www.ZackRauen.com | https://github.com/rauenzi

PROFILE Computer Engineer, with an innovative mind and drive, working to obtain a doctorate.

EDUCATION AND TRAINING

Clarkson University 2016 **Bachelor of Science:** Computer Engineering **3.67 GPA**
Awards: Presidential Scholar, Deans List, Best Presentation.
Minors in: Software Engineering, Computer Science, and Mathematics.

SKILLS Research, Public Speaking, Digital Design, Embedded Development, Robotics, Software/Visual Design

PROFESSIONAL EXPERIENCE

Summer 2015: **Intern | IBM –** Poughkeepsie, NY
Used leadership and collaboration skills to develop a new tool to test the hardware recovery of Z and P series mainframes across multiple sites of IBM. Designed and implemented the firmware for the tool hardware as well as a remote GUI interface while collaborating on hardware design.

Summer 2014: **Biometrics Researcher | Clarkson University –** Potsdam, NY
Designed and developed an algorithm for cyber security; user verification via keystroke biometrics. This included a basic computer learning aspect. Presented at the annual SURE conference and won an award.

PUBLICATIONS & AWARDS

IEEE Paper – *2015*
Zachary Rauen, Burak Kantarci, Mahesh Banavar, Nick Rolfe, Will Freitag, "A Tool for Simulation and Visualization of Distributed Estimation in Wireless Sensor Networks." IEEE Frontiers in Education Conference.

NSF Award/Paper – *Ending 2016*
Stephanie Schuckers, Daqing Hou, **Zachary Rauen**, Andrew Hou, Adam Scott, "Long-term Active User Authentication Using Multi-modal Profiles." CNS Division of Computer and Network Systems.

ACCOMPLISHMENTS

Autonomous Robotics – *Computer Engineering Senior Design*
- Lead a small team that designed and developed a small autonomous car that could follow a track made from a black line. The car also detected sign posts, turning at intersections corresponding to the posts. When placed away from the track, the car successfully located the track. The car was controlled by a K64F microcontroller, where the programming for front steering as well as a differential was implemented.

Hardware & Software Interaction – *Computer Engineering Lab*
- Designed and implemented a working 'Hangman' GUI that connects to a serial adapter interfaced to an external PS/2 keyboard. This project also included grabbing and converting the data for the serial adapter via hardware.

INDEPENDENT LEARNING

Software – Adobe Photoshop, Frontpage, Autodesk Inventor, Multisim, Xilinx, Quartus II, Bash/Linux
Digital Design – Boolean Logic, Microprocessors, Embedded systems, VHDL, CMOS Design
Electronics – Soldering iron/gun, AC/DC Wiring, Breaker Boards, Fuse Boxes
Web Design – XML/HTML/CSS, PHP/SQL, W3C Compliance, Graphic Design, Web Hosting
Computer Languages – C/C#/C++, Java, Javascript, VHDL, Python, R, Assembly, MatLab

EMPLOYMENT

Spring 2014: **Teaching Assistant | Clarkson University** – Potsdam, NY
Fall 2012: **Interview Manager | Clarkson University** – Potsdam, NY
2010-2014: **Crew Member | McDonald's** – Ontario, NY

LANGUAGES Bilingual Spanish/English

AFFILIATIONS **IEEE Junior Member**
Circle K International (Charity Organization)