

ZACHARY RAUEN

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

PROFILE Computer Engineer, with an innovative mind and drive, looking to change the world.

EDUCATION AND TRAINING

Clarkson University 2018 **Master of Science:** Electrical and Computer Engineering
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.

PROFESSIONAL EXPERIENCE

Fall 2016 - Present: **Crowdsensing Researcher | Clarkson University** – Potsdam, NY
Currently working in a team to create an Android app that tracks sensor data about users focusing currently on social network activity. We provide users with relevant feedback such as data usage and how active they are.

Summer 2015: **Hardware & Software Developer | 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. User verification rates were increased from 80.2% to 96.8% and the false acceptance rates were decreased from 12% to 2.73%. Award won at the annual SURE Conference.

PUBLICATIONS & AWARDS

OSN Journal – 2016
Zachary I. Rauen, Burak Kantarci, Hussein T. Mouftah, “Resiliency versus energy sustainability in optical inter-datacenter networks”, Optical Switching and Networking, ISSN 1573-4277

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.

PROJECTS

Autonomous Robotics – *Computer Engineering Senior Design*
Led 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.

SKILLS & INDEPENDENT LEARNING

Software – Photoshop, Inventor, Multisim, Xilinx ISE & Vivado, Altera Quartus II, Git
Digital Design – Microprocessors, Embedded systems, FPGAs, CMOS Design, Optimization
Electronics – Soldering, Wiring Conventions, Debugging, Oscilloscopes, Logic Analyzers, Robotics
Web Development – HTML5, CSS3, Sass/Less, PHP, SQL, Javascript, WebGL
Computer Languages – C, C++, C#, Java, VHDL, Python, R, Assembly, OpenGL API
Miscellaneous Languages – Bash, LaTeX, Spice, XML, AHK, GML, MATLAB, Markdown

LANGUAGES Bilingual Spanish/English

AFFILIATIONS **IEEE Graduate Member, Circle K International (Charity Organization)**