**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 **3.9 GPA**

**Clarkson University 2016 Bachelor of Science:** Computer Engineering **3.67 GPA**

 **Awards:** Presidential Scholar, Deans List, John B. Russell Award, Best Research

**Minors in:** Software Engineering, Computer Science, and Mathematics.

**PROFESSIONAL EXPERIENCE**

**August 2016 - May 2018: HCI + Behaviometrics Researcher | Clarkson University –** Potsdam, NY

Worked on a crowdsensing application framework that introduced gesture and sociability-based user authentication. Combined the fields of HCI and behaviometrics in crowdsensing through a novel approach. Ran multiple experiment sessions and analyzed the data to confirm original theory.

**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 (international) 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**

***IEEE MobiWac Paper*** *– October 2018*

**Zachary I Rauen**, Fazel Anjomshoa, Burak Kantarci, “Gesture and Sociability-based Continuous Authentication on Smart Mobile Devices.” IEEE MobiWac 2018.

***IEEE CAMAD Paper*** *– September 2018*

**Zachary I Rauen**, Fazel Anjomshoa, Burak Kantarci, “Empowering Human-Computer Interaction in Securing Smartphone Sensing” IEEE CAMAD 2018.

***SCPE Journal*** *– June 2017*

Zhiliu Yang, **Zachary I Rauen**, Chen Liu, “Automatic Tuning on Many-Core Platform for Energy Efficiency via Support Vector Machine Enhanced Differential Evolution.” Scalable Computing: Practice and Experience.

***OSN Journal*** *– January 2017*

**Zachary I Rauen**, Burak Kantarci, Hussein Mouftah, “Resiliency versus energy sustainability in optical inter-datacenter networks.” Optical Switching and Networking.

***IEEE FEC Paper*** *– March 2016*

**Zachary I 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*** *– August 2014- May 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.

**SKILLS & INDEPENDENT LEARNING**

**Software –** Photoshop, Inventor, Multisim, Xilinx ISE & Vivado, Altera Quartus II, Git

**Digital Design –** Circuit Diagrams, FPGAs, Microcontrollers, Timing Analysis, Minimal DSP

**Web Development –** HTML5, CSS3, Sass/Scss, Less, PHP, SQL, Javascript, Node, React, Electron, WebGL

**Computer Languages –** C, C++, C#, Java, VHDL, Python, R, Assembly, OpenGL API

**Miscellaneous Languages –** Bash, LaTeX, Spice, XML, AHK, GML, MATLAB, Markdown

**LANGUAGES English:** Native fluency, **Spanish:** Advanced fluency

**AFFILIATIONS IEEE:** Graduate Member, **Table Tennis Club:** President, **Circle K International**