

## JAMES P. BRUSKA

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### EDUCATION AND AWARDS:

**Clarkson University**, Potsdam, NY - Expected Graduation Date: **May 2018**

Bachelor of **Computer Engineering** and **Computer Science** with **Honors**

- **Honors Thesis:** Downgrade Attack Detection via Hardware Event Anomalies (Mentor: Dr. Liu)

Cumulative GPA: **3.922/4.00**

- Presidential Scholar (Freshman and Spring Sophomore) & Dean's List (Fall Sophomore)

First Place in the SURE Conference Signal Processing Poster Presentation 2015

First Place in Hack Potsdam Coding Competition 2017

Podium Placement in four snowboarding competitions 2014 – 2017

### RESEARCH:

**Publications** 2017

- J. Bruska, Z. Blasingame, and C.Liu, "Verification of Openssl version via hardware performance counters," April 2017, SPIE10206, Disruptive Technologies in Sensors and Sensor Systems

**Academic Research** 2014 – 2017

- **Spring Junior:** Contention-aware Virtual Machine Scheduling via Runtime Performance Monitoring
- **Fall & Spring Junior:** Employing hardware performance counters to detect encryption downgrade attacks
- Sprint Sophomore: Monitored hardware events in order to detect FREAK
- Fall Sophomore: Measured the number of bits required to extract a server's private key with Heartbleed
- Pre-Sophomore: Developed system where the Google Glass measured another person's heart rate in real time
- Pre-Freshman: Optimized an implementation of Professor Feng Hao's Biometric Cryptosystem

### PROFESSIONAL EXPERIENCE:

**COSI (Clarkson Open Source Institute)** 2014 – 2017

- Maintaining two virtual machine hosts for the lab
- Lead and participate in events that occur throughout the year such as the Robigalia project presentations

**Internship at Intelligent Automation Inc.** 2016

- Worked on secure micro-kernel development and performed radio testing

### SKILLS AND ABILITIES:

#### **Programming Languages**

- Proficient: C, C++, Python, Assembly (x86 and HCS12), VHDL, Bash, Java, MATLAB
- Used: Rust, Haskell, Racket/Scheme, Prolog, HTML, CSS, JavaScript, jQuery, XML, BASIC, Scratch

#### **Technical Knowledge**

- Linux, Operating Systems, Kernel Development, Virtual Machines, Git, GitHub, Android App Development, OpenCV, OpenSSL, AutoDesk Inventor, Soldering, Microsoft Windows, Microsoft Office

### LEADERSHIP:

**Teaching Assistant** – Introduction to Computer Science I & II 2014 – 2016

**Vice President** – Clarkson ACM (Association for Computing Machinery) Chapter 2015 – 2017

**Research Mentor** – Clarkson Architecture and Microprocessor Engineering Lab 2015 – 2017

**Student Mentor** – Clarkson Honors Program 2015 – 2017

**Vice President** – Clarkson University Golden Knots (A Capella) 2016 – 2017

### EXTRA-CURRICULAR ACTIVITIES:

**Snowboarding Instructor** 2009 – 2017

**Golden Knots and UV Tones (A Capella Group)** 2015 – 2017

**Clarkson University Student ACM Chapter** 2015 – 2017

### SERVICE:

Church activities including food drives, event setup, and altar serving 2010 – 2017