Skanda Koppula

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Massachusetts Institute of Technology
Masters of Engineering, Computer Systems and Security, GPA: 5.0/5.0 *Expected Dec. 2017*

Massachusetts Institute of Technology
BSc. Computer Science and Engineering, GPA: 4.7/5.0 *Sept. 2013 - June 2016*

Relevant courses: Machine Learning, Computer and Network Security, Compilers, Computer Systems Engineering, Cryptography, Design and Analysis of Algorithms (Teaching Assistant), Theory of Computation, Computer Architecture, Operating Systems, Computer Networks, Electronics Projects Lab

Work Experience

Yahoo Login Abuse Team, Software Engineering Intern *June 2016 - Sep. 2016*

- Prototyped production-ready neural network to classify account registration and login events on Yahoo services as spam. Demonstrated a 6% improvement in network's equal error rate from previous system.
- Designed and deployed a multi-threaded data feed service to pull data hourly from Facebook ThreatExchange and thirty-one other sources to inform classifier of threat intelligence updates. Voted top intern project, presented at company all-hands meeting.

Square Security Infrastructure Team, Software Engineering Intern *June 2015 - Aug. 2015*

- Developed back-end service to collect memory core dumps from Square card readers that crash. The service symbolified binary contents to human-readable source error trace for developers.

Projects

MIT Electric Vehicle Team, Embedded Software Lead *August 2015 - Present*

- Developed embedded system to orchestrate safety checks and car state of a 1972 Opel GT. Created tools to eavesdrop on Controller Area Network and validate messaging specifications
- Currently developing the battery management system for MIT's Formula SAE team

MIT Efficient Circuits Group, Memory-Secure Speech Authentication *Sept. 2015 - Present*

- Designed the first low-latency protocol for speaker authentication that prevents memory-snooping attacks. Constructed a software prototype in Scala. Paper in progress.

Power-Based Side-Channel Attack on ATMega328 *Oct. 2015 - Nov. 2015*

- Built hardware setup to measure power consumption, and implemented the Correlation Power Analysis algorithm for a final project for a security class.
- Demonstrated extraction of an AES key from an Arduino's flash memory from chip's power traces

Skills

Web Systems: **JAX-RS/Jetty**, **Rails/RSpec**, **Flask**, **JavaScript**
Embedded Systems: **C**, **x86 Assembly** and **Bluespec Verilog**.
Misc: **Python**, **Java**, **Scala**, **shell**, **Hadoop FS/Hive**, **Spark**, **scipy**, **TensorFlow**

Awards

Analog Devices Research and Innovation Scholar Award	2015
Third Place in Jane Street Collegiate Programmatic Trading Competition	2015
Crowd Favorite Research Poster at the 2016 MIT EECS Research Conference (EECSCon)	2016
Google Science Fair Finalist	2011