Skanda Koppula

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Massachusetts Institute of Technology

Major: Computer Science and Engineering, BSc, GPA: 4.7/5.0   *Sept. 2013 - Present*

Relevant courses: Computer and Network Security, Multicore Computer Architecture, Digital Communications Systems, Machine Learning, Computer Systems Engineering, Data Structures and Algorithms, Circuits, Theory of Computation

Projects and Work Experience

Web Security Infrastructure Intern   *June 2015 - Aug. 2015*
Square

- Build service to capture and encrypt memory dump when the Square card-reader crashes
- Developed back-end services to decrypt, and symbolify binary contents to human-readable source error trace

Biometric Authentication System with Homomorphic Encryption   *May 2015 - Present*
Researcher in the MIT Digital Circuits Group

- Working on privacy-preserving speaker authentication chip that is functional in a low-memory and low-power environment
- Building Bluespec Verilog hardware design to implement this algorithm
- Designed a test bench to check the accuracy and performance specs of the designed circuit

Embedded Software for MIT Electric Vehicle Team   *May 2014 - Present*
Member of the electrical engineering MIT EVT sub-team

- Programmed 32-bit ARM core to read in status of car toggles and output control messages on CAN bus to drive car
- Built software tools to eavesdrop on the CAN bus and verify that message bus contains messages that match our signaling specification

Authentication Scheme for Controller Area Networks   *March. 2015 - May. 2015*
6.875 Final Project - Computer and Network Security

- Designed low-cost authentication layer to verify messages on vehicular CAN networks
- Implemented system prototype and tests in Python, Java, and Processing. Formally proved security.

Skills

Web Systems: **Java Web Services/JBoss**, **Rails**, **RSpec**, **JavaScript**, **React**, **Node.js**
Embedded Systems: **C** and working proficiency in **x86 Assembly** and **Bluespec Verilog**.
Misc: **Python**, **bash scripting**, and **R**

Awards

Analog Devices Undergraduate Research and Innovation Scholar Award   2015
Third Place in Jane Street Collegiate Programmatic Trading Competition   2015

Other interests

- Project Euler and other fun online algorithmic challenges
- Blogging about coding, data analysis, and art at skoppula.github.io
- Volunteer teaching *Applied Algorithms*, *Biochemistry - Kitchen Edition*, and *SAT Math*