Conor L. Curry

conorcurry@gmail.com www.github.com/ConorCurry (603) 454-4110

Selected Projects

Network Security – Java

- Designed and implemented cryptographically secure distributed file-storage server and client software.
- Secured via hierarchical group systems, asymmetric (RSA), symmetric (AES), and authentication (HMAC) cryptography.
- Systems audited for soundness of security of design and development by professor and live tech demos.
- Partner-based term project, used git version control

Data Science – Python

- Designed and developed Bitcoin blockchain statistical simulation to optimize blocksize as a function of transaction frequency and fees.
- Processed large amounts of real-world blockchain data to calibrate parameters, demonstrating the effects of possible Bitcoin design decisions on long-term scalability.
- Team-based term project, used git version control.

Sensor Research – Python

- Research and development of Raspberry Pi based presence sensors, to determine number of persons in a room.
- Used OpenCV computer vision library, developed an efficient adaptive background subtraction algorithm suitable for an embedded application.
- In a busy office setting with varying levels of natural light, the detection was able to achieve a 80% accuracy level throughout a workday.

Skills

- Data processing and analysis for various sensor systems, including computer vision and speech sensing
- Strong knowledge of Python, C, and Java for everything from self-contained scripts to multi-file team projects
- Experience with complex software engineering fields, such as cryptography, graphics, and high performance computing
- Teaching and tutoring experience in both one-on-one and group-based labs, code reviews, and discussions
- Everyday user of Linux systems of various distributions, including Debian, Fedora, and Arch Linux derivatives
- Deep understanding of discrete and continuous mathematical models, methods, and analysis

Relevant Work Experience

Undergraduate Mentor – *Office of Undergraduate Research* — *August 2015 – Present*
University of Pittsburgh

- Interdisciplinary collaboration with other UMs to improve undergraduate experiences in research
- Foster involvement in OUR programs through outreach events and assistant teaching

Undergraduate Teaching Assistant — *August 2014 – Present*
University of Pittsburgh

- Lead weekly lab sections and office hours to promote active learning and supplement lectures

Undergraduate Peer Tutor — *May 2015 – April 2016*
University of Pittsburgh

- Assist undergraduate students in all CS core classes and several upper-level courses

Undergraduate Researcher – *Lab of Dr. Adam Lee* — *January 2014 – September 2015*
University of Pittsburgh

- Developed a suite of Raspberry Pi presence detection sensors, supported by Systems Research Scholarship
- Conducted and presented research analyzing data collection methods of smartphone sensing systems

Data Acquisition Sourcing Internship – *Maponics : White River Junction, VT* — *July – September 2014*
White River Junction, VT

- Automated geographic data collection of school attendance zones using Python web scraping tools
- Built processes for classifying scraped data for use in machine learning and PostgreSQL GIS databases

Education

University of Pittsburgh – *Dietrich School of Arts and Sciences* — *Class of 2017*
Pittsburgh, PA

- Bachelor of Science, Computer Science and Mathematics

Awards & Activities

Study Abroad – Linnéuniversitetet, Sweden — *Fall 2016*

Annual University of Pittsburgh Hackathon — *2014, 2015, 2016*

- First place team-member in the 2015 *SteelHacks* event, for project using brainwave signals to evolve calming music.

NetApp Systems Research Award - $2,000 — *September 2014*

- Award to fund a research and development of a distributed, embedded sensor system