

Experience

- September 2015 - present **Software Developer** *OnShift*, Cleveland, OH.
- Owned the full-stack development of an internally-facing Flask, Backbone.js, and PostgreSQL application to let non-technical customer support employees configure periodically scheduled Celery jobs.
 - Ported legacy Python 2 modules and Turbogears endpoints to Python 3 and Flask views.
 - Managed alterations to the PostgreSQL tables describing the Celery jobs.
- May 2014 - August 2014 **Software Developer Intern** *Tlon*, San Francisco, CA.
- Built the first full-stack web applications of the functional Urbit OS.
 - Wrote some of the first excellent developer documentation of Urbit and Hoon.
 - Contributed to the standard library and documentation of the functional systems language Hoon.
- May 2013 - August 2013 **Software Developer Intern** *Sociagram*, Cleveland, OH.
- Built the first versions of the Python, Java, and Android client SDKs for the FrameStack asynchronous video-messaging RestAPI with full unittest and JUnit testing suites.
 - Built several Android applications demonstrating the FrameStack Android Library.
- March 2012 - August 2012 **Robotics Research Intern** *Air Force Research Lab*, Dayton, OH.
- Designed, programmed, and presented a self-determined research project with the NAO robot to have it navigate a room, find objects, and pick them up. Used the Python NAOqi SDK to write applications in Python combining decision-making, movement, and control.
- May 2012 - May 2013 **Google Student Ambassador** *Google*, Cleveland, OH.
- Organized events on CWRU's campus to promote Google products, brands, and relationships in collaboration with Google marketing teams.
- October 2011 - May 2012 **Programmer** *CWRU School of Medicine Genetics Lab*, Cleveland, OH.
- Built scripts in Python, R, and bash to manipulate DNA base sequences for cancer research.

Skills

Languages	Python, Java, Scala, Haskell, Hoon	Hobbies	Javascript, PHP, C, C++
Platforms	Linux, Android, ROS, NAOqi, Urbit, AWS	DB	PostgreSQL, MySQL
Tools	Git, Bash, catkin, sbt, LaTeX, Scipy	Frameworks	Flask, Django, Python unittest, JUnit
Physics lab experience with experimental statistics, electronic test equipment (Oscilloscopes, multimeters, PMTs, etc.), and lab safety. Linux command line fluency.			

Education

- 2011-2015 **Physics, B.A., Minor in Computer Science**
Case Western Reserve University, May 2015.
- Relevant Courses:** Programming in Java, Data Structures, Algorithms, Compilers, Logic Design, AI for Robotics (Udacity), Machine Learning (Udacity), E&M, Quantum Mechanics I&II, General Relativity, Particle & Nuclear Physics, Advanced Physics Lab, Statistical Mechanics, Linear Algebra, Abstract Algebra, Real Analysis, Complex Analysis, Discrete Mathematics.

Projects

- Senior Thesis** Contributed to an experimental search for the shape of the universe by solving for the eigenmodes of the Laplacian of the universe for a set of oblique torus topologies and building numerical tools in Python to simulate correlation matrices of the Cosmic Microwave Background radiation under Prof. Glenn Starkman.
- Elevator Simulator** A Scala command line application to simulate an elevator system with an arbitrary number of lifts and floors. Uses the SCAN algorithm to service randomly generated ride requests and is implemented statelessly using Scala case classes.
- EECS 397** A crash course in building ROS applications and packages for Atlas to solve the challenges of the DARPA Robotics Challenge. Built ROS apps in Gazebo to solve various DRC problems for Atlas.
- Winthrop** Scheme interpreter written in Haskell using combinatory parsing with Parsec. Functionally handled mutable state, I/O, and parsing.

Activities and Interests

- ACM** Vice President (2013-2014), Secretary (2012-2013), and Treasurer (2011-2012). Organized the reformation of ACM at CWRU, hackathons and trips to hackathons, and helped start the annual Link-State Conference.
- Hackers Society** Maintainer of the CWRU Hackers Society student group, which presents weekly tech talks, programming workshops, and connects students to a network of employers.
- FIRST Robotics** President, Founder, and coder of FIRST FRC Team 3652. Personally fundraised over \$9,000 in sponsorships. Managed 16 students and 3 adult mentors while overseeing the successful design of robot hardware and software.