Nathan Lilienthal

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github.com/nixpulvis ∘ nixpulvis.github.io/nixpulvis/projects

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Languages: Ruby, Rust, C/C++, LUA, and Racket. ECMAScript (JS), Python, Java, and Shell and many more...
Systems: UNIX, Linux, Git, GitHub, Rails, Postgres, AVR/ARM, WoW (ask me about it).

Professional Experience

- **Northeastern University**   **Boston, MA**
  Research Programmer for IARPA's HECTOR Program   *Aug. 2019 – Aug. 2020*

    – Collaborativly developed a hybrid-mode secure programming language design for MPC.
    – Attended both remote and in-person technical exchange meetings with other teams of researchers.
    – Built a prototype (currently insecure) implementation of our language forked from Rust.
    – Began a formalism for our language(s), which will include sound typing rules, and reductions.

  Teaching Assistant for Fundamentals of Computer Science 1   *Fall of 2012, 2013, 2014, and 2015*

    – Conducted mini lectures, monitored class progress and answered students' questions.
    – Discovered new ways to present concepts that facilitated student understanding.
    – Held office hours to further help students with the course.

- **Forward Financing Inc.**   **Boston, MA**
  Sr. Software Engineer   *May 2018 – Aug. 2019*

    – Developed a client wrapper for our Algolia search implementation.
    – Performed many various application performance improvements, often caused by unacceptable response times, quickly.
    – Planned and lead architecture refactoring and developer tool efforts, including object model improvements, an orchestration CLI for managing a complex Heroku + Salesforce microservice system, and more.
    – Mentored our co-ops by providing deep code reviews, and spending time pairing on problems (both mine and theirs).

- **HOMER Energy**   **Boulder, CO**
  Software Developer, Summer Intern   *Jul. 2017 - Nov. 2017, Summer 2012*

    – Built API integrations for the HOMER C# application, including REST and CSV file APIs. As a part of this process I refactored a lot of the code which imports data, and added tests.
    – Developed an internal tool to view the Google Protocol Buffer used to pass values between all parts of the application. This allowed developers to quickly see what the values of program inputs and outputs were.
    – Created a web based front-end for HOMER in Rails. This was the starting point for another version of HOMER, and provided a proof of concept for how to integrate the HOMER API with a webserver.

- **Apple Inc.**   **Cupertino, CA**
  Software Engineer   *Jan. 2015 – Aug. 2015, Jul. 2016 – Jul. 2017*

    – Developed a Ruby library (`radic`) and CLI (`radish`) for interacting with Apple's bug managment system (aka Radar).
    – Worked on an internal tool for managing hardware validation. Somewhat inspired by Travis CI.
    – Contributed to an internal tool for analysing pre-production device test data.

- **Americas Test Kitchen**   **Boston, MA**
  Web Developer   *Jan. 2014 – June 2014*

    – Pushed code to the front-end and back-end for all four of Americas Test Kitchen's websites including bug fixes and technical infrastructure upgrades.
    – Built modularized components to abstract functionality found common throughout the companies codebase.

- **Bluesocket - Adtran**   **Burlington, MA**
  Software Developer   *Jan. 2013 – June 2013*

    – Developed an automated build system which allowed developers to see how their changes would affect a real build of the system. Reduced turnaround time, allowing anyone to easily run a build.
    – Addressed user reported issues in Ruby/Rails and LUA, including hardening validations, and updating database migrations for old versions of the software.
    – Designed a class/model structure for users and accesspoints, which allowed the back-end to represent clients of individual accesspoints.

Some Interests: Teaching, Microelectronics, Woodworking, Music, Gaming, Skiing, Cats.

Education

- **Northeastern University** **Boston, MA**

  College of Computer and Information Science *2011 – 2016*

  Bachelor of Science in Computer Science

    - Relevant Courses Taken:
        * Programming Languages
        * Special Topics in Programming Languages
        * Compilers
        * Systems and Networks,
        * Computer Organization
        * Software Development (aka HELL),
        * Theory of Computation
        * Algorithms and Data Structures
        * Fundamentals of Computer Science 1 & 2,
        * Object Oriented Design,
        * Artificial Intelligence
        * Logic and Computation,
        * Combinatorics
    - Clubs & Extracurriculars:
        * NU Hacks
        * Hack Beanpot
        * ACM