Radon Rosborough

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EDUCATION

- Harvey Mudd College Class of 2020, B.S. Computer Science (GPA: 3.996)
  - Coursework: Data Structures, Algorithms, Operating Systems, Compilers, Programming Languages, Computability, Complexity Theory, Software Verification, ML/Info Theory, Discrete Math, (Vector) Calculus, Linear Algebra, Quantum Computing
    - Acted as project lead for three students to implement improved PMTUD in Linux kernel and submit Internet-Draft to IETF
    - Acted as project lead for four students to develop full-stack webapp hosting minimax/neural-network chess AI
    - Implemented memory management, process spawn/fork, trap handling, IPC, FS server, ethernet driver for exokernel OS
  - Extracurriculars: Sophomore Retreat, Prison Education Project, Effective Altruism Club, Badminton Club, tutoring
    - Ran two-day annual team-building retreat for 50 students with two other student facilitators and staff
    - Individual tutoring with ten students; group tutoring and grading (six semesters, nine courses)

WORK EXPERIENCE

Software Engineering Intern • **Repl.it** • San Francisco, CA   **05/19 – 08/19**
- Designed, implemented, and released as open-source UPM, a universal package management interface for four languages
- Helped replace Repl.it's entire package management stack with UPM-based solution and deploy to two million MAU
- Wrote blog post which directly generated engineering job applications for Repl.it

Software Engineering Intern • **Quantcast** • San Francisco, CA   **05/17 – 08/17**
- Created full-stack administrator dashboard webapp for viewing usage of internal ad campaign renewal application
  - App used heavily by on-call engineer and ~90% of team, achieving estimated 80% speedup for database maintenance
- Established improved best practices for Node.js and Terraform configuration now used in several other company projects

Software Engineering Intern • **ThinkTopic** • Boulder, CO   **06/15 – 09/15** • **12/15 – 08/16** • **12/16 – 01/17**
- Created Clojure libraries for gradient descent visualization, collaborative filtering, and company-wide code quality audits
- Full-stack Clojure(Script)/Reagent/Datomic web development on pricing calculators for two clients

PERSONAL PROJECTS *Emacs, workflow optimization, and open-source community-building on GitHub*

- *straight.el:* Next-generation, purely functional package manager for the Emacs hacker
  (~6,500 LOC, ~500 issues, ~100 pull requests, ~1,300 stars, ~5,000 unique clones/two weeks)
- *Hyperschedule:* Full-stack webapp for course search and scheduling, focusing on fast schedule adjustment (~1,000 users)
- *Kalyn:* Self-hosting compiler from custom-designed Haskell/Lisp dialect targeting x86-64 ELF, developed entirely from scratch
- *TerrariaClone:* Clone of a popular PC game (~11,000 LOC, ~1,400 stars, #2 on front page of HackerNews for a day)
- *Calculus, Intuitive Explanations:* 67 pages of LaTeX, with 35 TikZ figures (adopted by three high school calculus teachers)
- *MazeGen:* Java library used to design, prototype, and assemble 94-piece, 6x6x6 marble maze on laser cutter (~7,000 LOC)

SKILLS

- *Languages:* {advanced} in Emacs Lisp, Python, Go, LaTeX; {working knowledge} in Java, JavaScript (browser/Node.js), Zsh, Clojure, TypeScript; {previous experience} in C, Bash, Haskell, C++, ClojureScript, HTML, CSS, C#, Objective-C
- *Tooling:* {expert} in Emacs, Linux, macOS, Git, Docker; {working knowledge} in Heroku, Make, SSH, UNIX, Zsh, Vim, Vagrant, Netlify, Travis/Circle/Semaphore CI, Tmux; {previous experience} in GDB, SCons, Leiningen, AWS, Terraform
- *Concepts:* workflow optimization, system adminstration, package management, distributed version control, web development, API design, functional programming, object-oriented programming, machine learning, gradient descent, neural networks

AWARDS

- Solution to Putnam problem B3 published in AMM, 2018 • Bloomberg Global CodeCon Finalist, 2017
- Harvey S. Mudd Merit Award, 2016–2020 • National Merit Scholarship, 2016–2020
- HMC Robert James Prize, 2017 • Boulder High School "Honorary Math Department Faculty Member", 2016