Rylan Polster

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EDUCATION

Yale University 2021–2025

B.S. Electrical Engineering and Computer Science

- Cumulative GPA: 3.9, *cum laude*
- Capstone project: Programmed a compiler to generate asynchronous CMOS circuits for computer chip design
- Relevant coursework: computer architecture, VLSI design, compilers, systems programming, embedded systems, parallel programming, electronic circuits, computer graphics/vision, data structures, and algorithms
- Extracurricular groups: Yale Dramatic Association, Yale Computer Society, Yale IEEE Chapter
- Selected student employment: Event Technician, Undergraduate Production Peer Mentor*

**More information available upon request*

EXPERIENCE

Homebrew — Package Manager for macOS and Linux 2020–Present

Technical Steering Committee Member (Appointed) and Maintainer — Remote

- Top 10 committer with over 2,500 authored commits related to user experience, efficiency, and bug fixes
- Programmed the largest internal functionality update since 2016, resulting in drastically faster operation
- Strategize technical goals for the organization and rule on technical disputes between maintainers
- Triage, review, and merge over 2,000 pull requests and issues submitted by Homebrew's millions of users

Yale Computer Architecture Lab — Abhishek Bhattacharjee Lab 2024–2025

RTL Designer — New Haven, CT

- Programmed an FPGA board to validate a new hardware architecture for low-power brain-computer interfaces
- Designed testing infrastructure and software to facilitate validation and operating-room testing

Yale Dramatic Association — 501(c)(3) Production Company 2023–2024

Production Manager and Executive Board Member — New Haven, CT

- Oversaw all use of association wood shop, and managed equipment training and maintenance
- Organized and led all construction/installation of scenery, lights, and sound equipment for 6 show season
- Approved professional & student designs across 6 departments to fit time, labor, budget, and safety constraints
- Authored technical planning documents and schematics using Vectorworks and other CAD software

Smartphone Biopsy Needle Guidance Device Project 2021–2023

Software Developer — Cleveland, OH

- Developed a smartphone application to improve accuracy and speed in CT-guided needle interventions
- Co-authored a study published in Skeletal Radiology demonstrating the benefit of using the application which was presented at the Society of Skeletal Radiology's 2023 annual meeting

CWRU Institute for Smart, Secure, and Connected Systems 2019–2020

Software Engineering Intern — Cleveland, OH

- Developed an IoT device to monitor railcar wheel wear for the Greater Cleveland Regional Transit Authority
- Prototyped a LoRaWAN system for monitoring industrial power consumption

PUBLICATIONS

Lui, C., **Polster, R.**, Bullen, J. *et al.* Smartphone application with 3D-printed needle guide for faster and more accurate CT-guided interventions in a phantom. *Skeletal Radiology* (2023). 10.1007/s00256-023-04453-x

SKILLS AND TECHNOLOGIES

- Software Development: C, C++, Ruby, Python, Linux, x86, LLVM IR, Git, GitHub Actions, AWS, Arduino, ESP-32
- Computer Engineering: RTL Design, Verilog, FPGA, AMD Vivado, Magic VLSI, SolidWorks, MATLAB, Simulink