Nicholas J. Fettig

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EDUCATION

Swarthmore College | Swarthmore, PA
B.S. in Engineering and B.A. in Computer Science | GPA: 3.91/4.0   *Class of 2026*
Relevant Coursework: Data Structures & Algorithms, Computer Systems, Compilers, Computer Vision, Mobile Robotics, Stochastic & Numerical Methods, Partial Differential Equations, Probability, Real Analysis

TECHNICAL SKILLS

Languages: Advanced in NodeJS, Typescript, Python, MatLab, HTML/CSS, C, C++; Proficient in OCaml, SQL, Java, Golang
Technologies / **Environments:** Lit.js, React.js, Next.js, Prisma, Docker, Kubernetes, AWS, Git/Github, Linux Admin., LaTeX

WORK EXPERIENCE

Carnegie Mellon University | Pittsburgh, PA (Hybrid)   *May 2024 - Present*
Computer Science Undergraduate Researcher
- Research deployment challenges for Reinforcement Learning-based Traffic Signal Control (TSC)
- Organized 200+ works in the RL-based TSC field and sorted into a novel challenge classification taxonomy in the form of a review paper to submit to ACM Computing Surveys

Teaching Assistant | Swarthmore College | Swarthmore, PA   *August 2023 - Present*
Teaching Assistant
- Assist professors in lab and run weekly study sessions for intro-level Python (CS021) and C (CS031) courses for the CS department
- TA for intro-level Computer Engineering course (ENGR021) for the Engineering Department

Reliable Robotics | Mountain View, CA   *May - August 2025*
Software Engineering Intern
- Designed, developed, and tested mission-critical display systems for remote operation of automated aircraft
- Lead development of "big board," a large-scale mission-critical display, primarily developed in LitJS and deployed on an AWS EC2 instance

Graphicient (startup) | North Bethesda, MD   *May - August 2023*
Software Engineering Intern
- Refactored the ComplyVue dashboard to monitor compliance to CCRI network security protocol for the company's largest client, Three Wire Systems
- Used Tenable API among other DoD secured services to pipe network security data to be scored on the client
- Developed NextJS web-app running ExpressJS microservices with secure endpoints, all scaled using Kubernetes

PROJECTS & VOLUNTEER WORK

Swarthmore College Computer Society | *Typescript, NextJS, Docker, Linux Admin*   *January 2022 - Present*
Vice President
- Currently leading development of Mailing Lists project, migrating from GNU Mailman's boilerplate frontend, Postorius, to our own customizable interface
- Lead the development of Cygnet, Swarthmore's student directory service
- Maintenance of club-owned servers running Proxmox, various Linux VMs, dockerized club-made services

Montgomery County Covid-19 Vaccination Website (**MoCoVax**) | *HTML/CSS, NodeJS*   *April 2021*
- Developed and deployed a website with 120,000+ visits to monitor available vaccine appointments