Zakary Miles

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Education

University of California, Santa Cruz **Expected Graduation: June 2027**
Bachelor of Science in Computer Science *Santa Cruz, CA*

- Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Computer Architecture, Database Systems

Work Experience

Software Engineer Intern **May 2026 – Aug 2026**
Stealth AI Startup *San Francisco Bay Area, CA*

- Developed full stack features for a multi tenant AI platform
- Designed scalable data infrastructure
- Built and validated scalable service layer APIs supporting 100+ concurrent requests, with 80+ integration tests covering persistence, retrieval, AI workflows, permissions, and tenant isolation.

Smith Denison Construction / Laborers Local 304 **May 2021 – Sep 2021**
Underground Electrical Utility *Bay Area, CA*

- Read electrical utility blueprints and conduit plans to lay out underground electrical routing and installation requirements
- Built and installed underground conduit systems for electrical wiring, including measuring, cutting, assembling, and aligning electrical pipe
- Performed wire splicing, cable preparation, and electrical wiring installation for underground electrical systems, ensuring secure connections and proper insulation

Projects

Xcelsior | *Python* | *FastAPI* | *React* | *TypeScript* | *PostgreSQL* | *SQLAlchemy* | *Docker*

- Built and deployed a full stack job market intelligence platform analyzing 15,000+ public job listings to identify in demand programming languages and technologies
- Developed a React and TypeScript frontend backed by FastAPI, PostgreSQL, and SQLAlchemy APIs for job search, analytics, authentication, saved jobs, candidate profiles, resume skill extraction, and job match scoring
- Engineered data pipelines for technology extraction, title normalization, salary analysis, and duplicate job detection, with caching, rate limiting, HTML sanitization, user scoped data access, scheduled GitHub Actions refreshes, Docker, Vercel, and Render deployment

MediaFlow | *Python* | *FastAPI* | *React* | *TypeScript* | *PostgreSQL* | *Docker* | *FFmpeg*

- Built a full stack media processing workspace platform supporting single file conversion, temporary browser workspaces, and persistent user workspaces
- Developed a FastAPI backend with PostgreSQL, SQLAlchemy, and Alembic migrations supporting authentication, workspace ownership, folders, uploads, and conversion workflows
- Engineered a durable asynchronous job system with worker separation, PostgreSQL backed queues, retries, cancellation handling, progress tracking, and failure recovery, with local and S3 compatible storage, direct uploads, presigned URLs, and large file processing through scratch storage

Roombi | *Arduino* | *C++* | *Tinkercad* | *3D Printing* | *Lidar* | *DC motors*

- Designed and assembled an autonomous four-wheel robotic vacuum integrating an Arduino microcontroller, distance sensors, DC motors, and a fan-powered suction system.
- Utilized Autodesk Tinkercad to design custom mechanical components and fabricated functional parts through 3D printing for integration into the robotic chassis.
- Programmed obstacle avoidance and differential motor control for autonomous navigation while integrating electrical wiring, motor drivers, and power distribution; performed hardware troubleshooting and iterative testing to improve performance.

Technical Skills

Languages: Python, TypeScript, JavaScript, SQL, C/C++, HTML, CSS
Cloud/Infrastructure: AWS (S3, SQS, EKS), Docker, Kubernetes, GitHub Actions
Technologies/Frameworks: React.js, FastAPI, Node.js, Express.js, SQLAlchemy, Pydantic, LangChain, REST APIs, CI/CD
Databases: PostgreSQL, SQLite, MySQL, Redis, pgvector, Qdrant
Hardware/Robotics: CAD, 3D Printing, Electrical Wiring, Wire Splicing, Soldering, Sensor Integration, Mechanical Assembly
Developer Tools: Git, GitHub, Linux, VS Code