Drew Council

Software Engineer specializing in embedded systems and infrastructure. Skilled in agile development, DevOps management, network infrastructure, Docker containerization, and AWS integration. Proven leadership in team coordination and technical education. Seeking Full-Stack Software Engineering positions.

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Work Experience

Software Engineer

Dirac, Inc., New York City — *Nov 2024–Present*

- Developed software on an agile team for automated work instructions.
- Led database migration to DynamoDB that entailed cross-sectional refactoring on Go codebase.
- Implemented complex path planning computational geometry algorithms in Python and C++.
- Managed dev tooling and testing infrastrucutre with NixOS and a locally hosted GitHub action runner.

Software Engineer

BotBuilt Robotics, Durham — *Jan 2022–May 2024*

- Developed software on an agile team for robotic house construction.
- Led DevOps: managed CI/CD pipelines, developer tools, and embedded deployment.
- Designed embedded hardware for a ROS2 network (actuator & sensor services).
- Established automated Docker container testing on pull requests.
- Integrated AWS for automated image builds with custom logging and error reporting.

Software Subteam Lead

Duke University Robotics Club, Durham — *Jun 2020–Jun 2022*

- Coordinated a 25-member agile team using ROS, Docker, and Git on a shared Python codebase.
- Implemented PID control, sensor fusion, computer vision, and SMACH to enhance autonomy.
- Placed 1st in Propulsion System & Technical Report (2021, 2022); 3rd in Sensor Optimization (2021).

Projects

NixOS Developer Configuration — *Jan 2025–Present*

- Created extensible system configuration for developer workloads based on NixOS

FPGA Typeracer-style Arcade Game — *Sep 2022–Dec 2022*

- Implemented a MIPS-like pipelined processor in Verilog for serial input & VGA output.
- Built a two-player typing arcade game with custom display and keyboard drivers on FPGA.

xv6 UNIX Additions — *Sep 2022–Dec 2022*

- Added kernel threads with system calls and context switching to xv6 (in C).
- Introduced copy-on-write fork to optimize memory usage.
- Utilized GDB and Valgrind for debugging and testing OS features.

Skills

Go · Python · C++ · C · Linux · Nix/NixOS · Docker · Git · Bash · GDB · Debian/Ubuntu · RHEL · AWS · Arduino · Raspberry Pi · Yocto Linux · ROS2 · Verilog · PlatformIO

Education

Duke University BS in Electrical and Computer Engineering and Computer Science (GPA 3.8) — *May 2024*