

# CHRISTIAN PRATHER

## Senior Systems Software Engineer

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### SUMMARY

Looking for roles that allow high velocity impact and opportunity for growth. I am a multidisciplinary engineer with large experience in fast-paced startup work. I would like my next role to allow for challenging learning as well as measurable impact to company operations. Likewise, I am focused on Rust based applications and performance critical design.

### EXPERIENCE

#### Systems Software Engineer

**Scythe Robotics**   07/2024 - Present   Longmont, United States

- Linux native software development and packaging (deb creation /registry standup)
- Company-wide build chain / dev tool maintainer (Mold, CMake, Catkin, Cargo based system)
- Compiler level analysis and optimization, reduced compilation time of dev stack from ~20 minutes to ~4 minutes
- Developed systems responsible for realtime safety critical processing in Rust and simulation environments for developer use
- Developed and maintained OTA update system for ~300 machines
- Yocto / Balena based Linux distribution maintainer
- CI/CD engineer for primary build and test infrastructure
- Docker image creator and maintainer for both on product robots and internal developer use

#### AI Robotics Engineer

**LUCI Mobility, Inc**   05/2021 - 06/2024   Wheat Ridge, CO

- Developed assistive technology for power wheelchair users including low latency real-time computer vision-based navigation systems, collision avoidance with sensor fusion, and home mapping with SLAM.
- Managed 2-year long semi-autonomous navigation project with large-scale code repository and safety critical verification.
- Required high-level knowledge of C, C++, Python, gRPC and the creation of custom OS with the YOCTO development suite.
- Led and developed Open Source SDK used by multiple universities built on the ROS2 stack.
- Experience with A\* and other search / path planning algorithms.

#### Software Engineering Intern

**Patroness, LLC**   01/2019 - 05/2021   Arvada, CO

- Developed interface for wheelchair to external processing computer.
- Managed the architecture, training and testing of an on edge ML based handicap feature recognition system running on quad-core ARM architecture.

### EDUCATION

#### Bachelors in Computer Science with a specialization in AI and Robotics

**Colorado School of Mines**

08/2019 - 05/2021   Golden, CO

- Degree in Computer Science specializing in AI and Robotics. Earned merit and need based scholarships totalling a full ride.

### SKILLS

High performing in Rust, C++ (11 14 17 20), Python, TensorFlow, LibRealsense, OpenCV, Docker, gRPC, ROS 1&2, Jira, GitHub Actions, GitLab Pipelines, Gazebo, Arduino, Linux, SQL, CAN protocol, Balena and Yocto OS development.

Experience in TensorFlow Quantum, SolidWorks, FreeCAD, KiCad, Jenkins, O3DE Simulation, GCP, Solidity and Blockchain development.

Experience with networking diagnostics and server bring up. Responsible for maintaining and setting up on prem server infrastructure at past employer. Allowed for remote and faster algorithm development.

A strong motivation to continue learning and developing my diverse skills. Deeply enjoy figuring out where technology from multiple industries can overlap.

Strong project management background.

### AWARDS

#### 🏆 Achievement and Excellence Award (Mines)

Received for excelling in courses while undergoing Chemo in 2020.

#### 🏆 PATHS Scholarship (Mines)

Recipient of PATHS, a highly competitive and selective merit/need based scholarship awarded by the head of the CS department.

### KEY ACHIEVEMENTS

#### 📄 Patent Pending US 10,656,652 B2

The creation of an autonomous navigation system for power wheelchairs in both home and van ramps.

#### 💎 AWS Certified Cloud Practitioner

Certified in general Amazon Web Services practices.

#### 💎 Google TensorFlow Certified

Certified by TensorFlow as a knowledgeable TensorFlow developer