Chris Kreienkamp

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About Me

Hello, I am a software engineer from the US studying for a Masters in Artificial Intelligence and Robotics. My experience as an autonomous vehicle sensor engineer drove my interest in machine learning to process sensor and other large data inputs. I am looking to start in a full-time role at the conclusion of my summer internship in early August.

Experience

Automation & Cluster Management Engineering Intern, May 2025 - present
AMD | Austin, Texas

- Collaborated with the AMD Accelerator Cloud (AAC) team to manage and support customer deployments of containerized applications on AMD Instinct GPU Accelerators across Slurm and Kubernetes clusters.
- Automated the setup of metrics exporters and Prometheus on new clusters for real-time monitoring using Ansible and GitHub Actions CI/CD workflows, enabling seamless performance benchmarking and visualization in Grafana.
- Investigated a multinode training failure involving LLama3 and Qwen2.5 models on Megatron-LM by deploying containerized training jobs, modifying Kubernetes networking (CNI), and analyzing RDMA configurations.

Sensor Application Engineer, Sept 2021 - Aug 2023
TuSimple | Tucson, Arizona

- Managed the sensors on a fleet of 30+ autonomous semi-trucks with 4 other engineers. Sensors include GNSS+INS, long and short-range LiDAR, radar, ultrasonics, and cameras.
- Designed and developed C++ and Python software to automate sensor and system processes, networking via Ethernet, USB, and serial communication protocols. Version control with Git.
- Deployed Docker containers on the autonomous system, monitored performance metrics, and collaborated with software engineers to optimize and refine system behavior.
- Owned the sensor phase of the truck upfit process. Includes configuring, analyzing, and verifying sensor output data.
- Provided real-time troubleshooting support to test engineers during on-road testing. Achieved through SSH'ing into the servers, sifting through system logs, analyzing sensor data, and taking CAN traces to identify the root cause.

Computer Engineering Research Assistant, Jun 2019 - Aug 2019
University of Arizona | Tucson, Arizona

- Designed a velocity controller that was able to dissipate human-caused traffic waves. Published and presented, Safety and Stability Analysis of the FollowerStopper Traffic Wave Dampening Controller, at the 2020 American Control Conference.

Education

Sapienza University of Rome | Rome, Italy
Master of Science in Artificial Intelligence and Robotics, 2023-present

- Gesture Recognition for Hospital Robots: Trained a MediaPipe + LSTM PyTorch network on the Jester Dataset of hand gestures and incorporated the gesture classifier into a differential-drive mobile robot with a camera and LiDAR sensor. Modeled it in a Gazebo hospital environment with ROS2 that could localize and path-plan using data from a lidar sensor.
- Water Polo and Covid-19: C++ application that uses computer vision techniques to track water polo players' movements and analyze their proximity to assess potential Covid-19 transmission risks. The analysis was used to provide insight and data for the published paper Transmission risk of COVID-19 in high school and college water polo.

University of Notre Dame | South Bend, Indiana
Bachelor of Science in Mechanical Engineering - cum laude, 2020

- Formula SAE Hybrid Electric Vehicle Team, Co-President
- Men's Water Polo Team, President