# 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 currently working in a summer internship, but I am looking to start in a full time role in August.

## Education

**Sapienza University of Rome | Rome, Italy**

Master of Science in Artificial Intelligence and Robotics, 2023-present

- 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.
- Robot Lidar Simulator: C++ application that simulates a robot equipped with a LiDAR sensor. Users can control the robot with a keyboard within a predefined environment and visualize the LiDAR data in real-time.
- 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.

**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

## Experience

**Automation & Cluster Management Engineering Intern, May 2025 - present**

AMD | Austin, Texas

- Working with the AMD Accelerator Cloud (AAC) team to assist customers in running containerized applications on the latest AMD GPUs. We manage, setup, troubleshoot, and monitor several Slurm and Kubernetes-based clusters.
- Developing software incoporated with GitHub Actions to automate the deployment of the monitoring stack on the clusters. This offers team members the ability to more easily visualize real-time performance metrics and benchmark statistics.

**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.