Trevor Chartier

Fort Collins, Colorado
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Education

Colorado State University August 2022 - December 2025
B.S. in Computer Science (Machine Learning (ML) & Artificial Intelligence (AI) Concentration) **GPA: 4.0**
Minor in Data Science

- **Coursework:** Embedded Systems & ML, Distributed Systems, Operating Systems, Bayesian Statistics, AI
- RamRobotics Software Team Lead, Re-founded Fourth Paradigm Data Science & Machine Learning Club

Prospective M.S. Student (Applications Submitted) August 2026

Professional Experience

Robot Demo Developer | CSU HAPI Lab (Dr. Sarath Sreedharan) August 2025 – Present

- Developed and tested ROS-based perception and planning on a Fetch robot, using simulation in Gazebo to validate reliable tic-tac-toe move execution.

Software Engineer: AI, Intern | Empower, Innovation Lab May 2025 – August 2025

- Designed and implemented a LangGraph-based AI Agent to automate the intake request process for the lab.

ML Researcher | CSU Computer Vision Lab (Dr. Nathaniel Blanchard) September 2023 – May 2025

- Developed an ML pipeline to detect user familiarity from raw eye-gaze data, hitting a global benchmark F1 score of 0.66 for this novel task and delivering a reusable platform for the lab that reduced hyperparameter-tuning time by 3x.
- Presented data-driven findings to gain recognition as the best paper/presentation at the international conference.

Skills

Systems & Robotics: *Python, C++, Java, Linux, ROS, Gazebo, RViz, Git, Raspberry Pi*
Data & ML: *SQL, OpenCV, NumPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, PyTorch, Spark, Hadoop*

Selected Projects | View All on GitHub

Autonomous Robotic Car February – May 2025

- Engineered an autonomous robotic car using real-time computer vision and precision PID feedback control to follow colored tape lines with sub-50ms responsiveness. [View on GitHub]
- Implemented Monocular Visual Odometry, comparing traditional SIFT feature-based methods with the end-to-end deep learning approach, Deep-VO. [View on GitHub]
- Trained a deep neural network for line following via behavior cloning and used expert intervention learning to correct distribution shift, enabling recovery from challenging states. [View on GitHub]

Selected Publications | View All

- Using Eye Gaze to Differentiate Internal Feelings of Familiarity in Virtual Reality Environments: Challenges and Opportunities, Annual Review of Cybertherapy and Telemedicine, 2024. [Link] ****Cyber Student Award**
  Trevor Chartier, I Castillion, V Venkatesha, AM Cleary, NT Blanchard
- Automatically Identifying the Human Sense of Familiarity Using Eye Gaze Features, HCII, 2024. [Link]
  I Castillion, **Trevor Chartier**, V Venkatesha, NS Okada, A Davis, AM Cleary, NT Blanchard

** Received **Cyber Student Award** at CyPsy International Conference for outstanding research paper and presentation.