

JAMES (JACK) CORNETTE

Norman OK | 254.760.4483 | Jamescornette1@gmail.com

COMPETENCIES

- Proficient in Java
- Experience with MATLAB, NI Multisim, Altium, Autodesk EAGLE, KiCad, NVIDIA CUDA, git
- CAD design and 3D printing
- Knowledgeable in Inverse Kinematics, PID, and various search/sorting/control algorithms and path planning
- Experience with Microsoft Word/Excel
- Inventory management

- Proficient in C++ and highly proficient in Python
- Mbed/Arduino/Teensy/Pi programming
- Experience with Linux/Windows/Apple OS
- Completed various class Java projects including GUI development
- Strong understanding of ROS with multiple projects
- Knowledgeable in various ML and AI Algorithms
- Financial Management
- Experienced leader and public speaker

RELEVANT EXPERIENCE

Electrical Team Lead x2 years, Captain 1 year
OU Sooner Rover Team | Aug 2020 – June 2024

- Design and implement electronics systems on the rover as well as teach incoming freshmen
- Projects include a new robotic arm with employed inverse kinematics (IK), PID, lowpass filtering, signal amplifiers, custom CAN transceivers, UDP socket communication in Python, and multiple PCBs that have been on the rover for up to 2 years. I have also design a GUI to visualize the rover commands, arm IK positioning, sensor data plots, and GPS coordinates/ bearing.
- As Captain, I manage the budget, sponsors, team communication and spirit, event planning, project oversight, and ensure we make it to URC Finals (4 years in a row). I set Discord as the main communications, built a Discord Bot, organized documentation, increased annual budget by \$2000, received our highest System Acceptance Review, and grew the team to a healthy 55 students.
- Team placed 12th in the world in this year's University Rover Challenge, the most competitive international rover challenge in the world. As captain, I planned the trips hotels/vehicles/itinerary.

Research Intern

OU Advanced Radar Research Center | May 2022 – May 2023

- Received and decoded ADS-B signals using SDR's in python, created custom UI for local ADS-B plane tracking, created FM Radio and Spectrum analyzer in python, programmed NVIDIA GPU using CUDA in C++ for quicker signal processing.
- Knowledgeable in Radar and communication basics including UDP/TCP, and Range-Doppler processing

EDUCATION

University of Oklahoma (OU) | Norman, OK
Bachelor of Science in Computer Engineering

- Minor in Computer Science
- Accumulated GPA **4.00 / 4.00** | Dean's Honor Roll – 8 semesters
- Gallogly College Scholarship, Gerald Tuma Electrical Engineering Scholarship
- Placed 1st in Robot Design Challenge (Electronics Lab)
- Voted 2nd Best Overall Capstone Project
- Voted the Outstanding Senior in Computer Engineering

Accelerated Master of Science in Computer Science

- Non-thesis track with a focus on Machine Learning and Robotics
- Accumulated GPA **4.00 / 4.00**
- Graduated May 2024**

ADDITIONAL EXPERIENCE

Executive Committee | **OU Lambda Chi Alpha** | Nov 2020 – Nov 2021
Driver | **Kona Ice Snow Cones** | Belton, TX | May 2019 – Aug 2020