Ethan Leitner

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EDUCATION

Kennesaw State University **Marietta, GA**
Bachelor of Science in Computer Science *June 2022 – April 2023*

Georgia Institute of Technology **Atlanta, GA**
Bachelor of Science in Computer Science 2026 *August 2023 – Present*

EXPERIENCE

KSU Electric Vehicle Team

Member *August 2022 – May 2023*

C++, Python, ROS 2, GitLab, Docker

- Led the switch to real-time object detection using Darknet YOLOv4 and depth estimation utilizing a binocular camera
- Trained a TensorFlow U-Net model to segment the track from the rest of the camera image
- Created ROS nodes relating to object detection utilizing our depth camera within other parts of our kart
- Created multiple guides to set up our simulator environment and depth camera with computer vision

Alpharetta Robotics Club

Mentor *August 2019 - Present*

Java, GitHub

- Captain of FIRST Tech Challenge (FTC) team 12864 for two years
- Captain of FIRST Robotics Competition (FRC) team 6905 for one year
- Won several programming awards and made it to FTC world championship
- Currently teaching the new members

Projects

Past Even

Co-Creator *January 2023 - Present*

- Working with a friend on a paint application aimed at improving Python skills and exploring creative ideas
- Implemented features like an OpenCV-based tool for drawing borders around illustrations and a history slider for easier undoing and redoing functionality

Quadruped Robot

Creator *January 2023 – Present*

- Designed, wired, and programmed quadruped robot resembling Boston Dynamics Spot, utilizing custom PCB and NVIDIA Jetson for precise servo control
- Aiming to improve self-sufficiency in technology and robotics creation for future projects

Trajectory Visualizer

Creator *January 2022 – February 2022*

- An application that visualizes robot trajectories created using the FTCLib Trajectory generator
- Users can create a visualize trajectories, change robot constraints to match theirs, save/load the trajectories they created, and export the trajectories as Java code to be used within FTCLib
- Trajectories can also be paused and replayed to view the robot's position and movement at certain timestamps

SKILLS

Languages: Java, C#, Python, Go, C++, HTML/CSS, JavaScript
Frameworks: ROS2, .NET, Qt
Technologies: Git, Docker, Anaconda, 3D Printing and Modelling, Windows, Linux, WSL2