Ashton Dy

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Honors Computer Science Student Gaining Experience in **Machine Learning** & **Robotics**

EDUCATION

The University of Tennessee - Knoxville, Tickle College of Engineering   Knoxville, Tennessee
Bachelor of Science in Computer Science GPA: (3.98/4.0)   Graduation: May **2027**
Major: Computer Science
Relevant Coursework – Data Structures & Algorithms I & II, Systems Programming, Matrix Algebra, Discrete Math, Robotics, Algorithm Analysis/Automata, Intro to Machine Learning

PROFESSIONAL EXPERIENCE

AURAS Lab | *Undergraduate Researcher*   February 2025 – Present
- Investigated the intersection of robotics and computer vision learning and its applications to robotic use under [Fei Liu, PhD](#)
- Labelled **30,000+** images and augmented these images to improve learning for classification models
- Engineered a complex ROS2-based system of action-driven nodes

EPIC Lab | *Undergraduate Research Assistant*   March 2024 – March 2025
- Developed a classification model with Tensorflow by cleaning, labeling, and preparing raw data, enhancing data accuracy and model performance.
- Researched Unitree B1 quadruped robot applications to enhance physical activity and companionship for individuals with dementia, under [Sai Swaminathan, PhD](#) and [Xiaopeng Zhao, PhD](#).
- Collaborated with three interdisciplinary teams to address challenges in human-robot interaction, mobility, and safety protocols.

The University of Tennessee Housing | *Resident Assistant*   August 2024 – Present
- Fostered a vibrant community of 58 upperclassmen through 13 engaging programs.
- Led individual meetings with 50+ residents in two weeks, strengthening their relationships and support.

PROJECTS

Weather App | [Webpage Link](#)   July 2024 –September 2024
- Programmed frontend, backend, and database with the **MERN** stack utilizing various APIs including, Spotify, Openweather, and Rainviewer

Gesture Controlled Car | [GithubLink](#)   October 2024 –December 2024
- Utilized React, Flask WebsocketIO, Arduino Uno, and a machine learning model trained by **Tensorflow**
- Architected the integration of the 4 components to enable real-time data streaming and synchronization

INVOLVEMENT/LEADERSHIP

Society of Asian Scientists and Engineers | *Events Director*   January 2024 – Present
- Designed and organized **15** events for the full academic year, collaborating with other organizations

IEE Robotics| Programming Co-Lead   April 2024 – Present
- I was tasked with leading the programming aspect of our competition robot

Tau Beta Pi | *Active Member*   March 2024 – Present
- Invitation-only engineering honors society that recognizes the top 12.5% of juniors and 20% of seniors

TECHNICAL SKILLS

Programming Languages: **C++**, **Python**, Javascript, Java, HTML, CSS, RISC-V Assembly
Technologies & Frameworks: ROS2, Gazebo, Pytorch, Tensorflow, Numpy, Seaborn
Software & Tools: Windows, Fusion 360, Linux, Github, Microsoft Office, Google Suite, Docker

AWARDS/HONORS

University Honors, [The University of Tennessee](#)
Engineering Honors, [Cook Grand Challenge](#)
Summa Cum Laude Dean's List (Fall '23 –Fall'24)
Phi Kappa Phi – Top 7.5% of Juniors