Ashton Dy

Knoxville, TN • (615) 524-0093 • ady@vols.utk.edu • LinkedIn • Personal Website
Honors Computer Science Student Exploring Machine Learning Research

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: Honors Computer Science
Relevant Coursework – Data Structures & Algorithms I & II,, Matrix Algebra, Discrete Math, Probability and Random Variables, Algorithm Analysis/Automata, Intro to Machine Learning, Reinforcement Learning

PROFESSIONAL EXPERIENCE

Clayton | *Software Engineer Intern*   May 2025 – August 2025
- Spearheaded AI development by creating the first AI-powered internal tool
- Research and developed a robust **Model Context Protocol** based RAG pipeline for +10,000 employees to use
- Utilized Amazon Web Services such as **EC2**, **Lambda**, **Amazon Bedrock**, and **Amazon Kendra** in my solution

Function Solutions | *Software Engineer Intern*   November 2024 – March 2025
- Designed and developed a HIPAA-compliant medical data tracking system for the Tennessee Department of Correction, securely managing records for over **320 patients** in correctional facilities.
- Implemented robust security protocols, including **JSON Web Tokens** and **data encryption**, to safeguard patient information and meet HIPAA standards.

The University of Tennessee Housing | *Resident Assistant*   August 2024 – August 2025
- 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.

RESEARCH

Kostas Lab | *Undergraduate Research Assistant*   May 2025 – Present
- Developed and fine-tuned an **LLM** based molecule generation pipeline with **reinforcement learning** techniques
- Used machine learning to validate binding affinity scoring functions for *de novo* drug discovery

AURAS Lab | *Undergraduate Research Assistant*   February 2025 – August 2025
- 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

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

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

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

TECHNICAL SKILLS

Programming Languages: **Python, C++,** Javascript, Java, HTML, CSS, RISC-V Assembly
Technologies & Frameworks: **Pytorch, rdkit, pandas,** Mongodb, Express.js, React.js, node.js, Tensorflow, SASS, Framer motion
Software & Tools: Windows, Fusion 360, Linux, Github, Microsoft Office, Google Suite, Docker, Blender

AWARDS/HONORS

University Honors, The University of Tennessee
Engineering Honors, Cook Grand Challenge
Summa Cum Laude Dean's List (Fall '23 – Spring '25)
Phi Kappa Phi – Top 7.5% of Juniors