James Dao

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Objective

Master's student in Computer Engineering with a focus on Applied Machine Learning, seeking an entry-level role or internship in firmware and embedded systems to apply skills in low-level programming, hardware-software integration, and system optimization.

Education

University of Texas at Dallas **Expected Grad. Dec 2025**
Master of Science in Computer Engineering - Applied Machine Learning *GPA: 3.5*
Bachelor of Science in Computer Engineering

Technical Skills

Languages: Python, Java, C++, C#, HTML/CSS, Verilog, Assembly, MatLab, LaTeX
Developer Tools: GitHub, Arduino IDE, Keil uVision / MPLAB X, STM32CubeIDE, PSpice, Makefiles/CMake
Technologies/Frameworks: Communication Protocols (SPI, I2C, UART), Embedded Systems (Microcontrollers and peripherals), Hardware Abstraction Layers (HAL libraries for microcontrollers)

Experiences

Institute of Electrical and Electronics Engineers **Aug 2023 – Present**
Computational Intelligence Society Director *Dallas, TX*

- Established a new society branch, increasing student engagement and interest by 25%.
- Led the planning and execution of 5+ industry-level events, attended by 100+ participants, focused on machine learning technologies.
- Developed workshops that increased participants' ML skills, with a 25% improvement in post-workshop assessments.

Cognizant Generative AI Externship **June 2024 – August 2024**
Student Extern *Dallas, TX*

- Gained fundamental knowledge on deep learning, from perceptions to transfer learning, and received hands-on experience with PyTorch and Hugging Face libraries for developing generative models.
- Applied parameter-efficient fine-tuning techniques, resulting in a 30% reduction in computational resource usage for model training.

Multimodal Interaction Lab **Aug 2023 – Dec 2023**
Research Intern *Dallas, TX*

- Designed and prototyped virtual reality interfaces, enhancing user experience with multisensory feedback. The interfaces increased user engagement by 15%.
- Collaborated with a cross-functional team to develop interaction techniques in Unity using C#, integrating tactile and haptic feedback mechanisms.

Projects

3D Mapping Rover | *C++, Python, Arduino*

- Designed and implemented algorithms for autonomous rover navigation using sensor data, enhancing precision in environmental 3D mapping tasks.
- Collaborated on microcontroller programming to integrate sensors and motors, resulting in a functional prototype capable of generating real-time 3D room scans.
- Developed a scalable solution for applications in disaster response, industrial automation, and indoor mapping, showcasing the potential of robotics in practical environments.

ML Continuous Motion Recognition | *C++, Embedded Systems*

- Developed a real-time motion recognition system using neural networks on microcontrollers, improving the efficiency of continuous activity monitoring.
- Optimized data collection and processing pipelines to ensure low-latency predictions, demonstrating the feasibility of machine learning on embedded systems.
- Enhanced accessibility to motion recognition technology for wearable devices and healthcare applications, paving the way for advancements in human-computer interaction.

Multi-Cycle Computer Architecture | *Verilog, Assembly*

- Designed and simulated a multi-cycle CPU using Verilog, enabling optimized instruction processing and improved computational efficiency.
- Implemented low-level assembly programs to validate CPU functionality, demonstrating proficiency in hardware-software integration.