

Donovan Cullen

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EDUCATION

Computer Systems Engineering, Bachelor of Science in Engineering (BSE) December 2023

Arizona State University, Tempe, AZ

- GPA: 3.1 - Specialization in artificial intelligence, data analysis, and hardware design.
- Relevant Coursework: Hardware Design Languages and Programmable Logic, Machine Learning, Operating Systems, Applied Programming, Computer Architecture, Data Structures and Algorithms.

PROFESSIONAL EXPERIENCE

Night Auditor and Accounting Assistant August 2022-Present

Graduate Hotels, Tempe, AZ

- Responsible account reconciliation, validation of financial transactions, and daily financial reporting.
- Automated manual workflows, such as file transfers and audit validation.
- Earned multiple awards in recognition of outstanding performance.

Machine Learning Development Intern January 2023-November 2023

Bit Space Development, Remote

- Successfully built and deployed two image classification models for customers.
- Expanded remote hardware deployment capabilities for software with Docker and Ansible.
- Deployed commercial machine learning software on edge devices, using NVIDIA Jetson platform.

Software Engineering Intern June 2019-August 2019

GE Transportation, Erie, PA

- Designed and implemented CPU utilization monitoring tool for commercial rail software.
- Converted VBA parsing software to C++ for standardization.

TECHNICAL SKILLS

Programming Languages: Python, C/C++ (Proficient); Java, Verilog, SQL, HTML/CSS (Familiar).

Software and Tools: PyTorch, TensorFlow, LLMs, Git, Computer Vision, Agile Development.

Embedded Systems: Xilinx Vivado, ARM, Embedded Linux, FPGA Design, Circuit Design, SPI/I2C, LIDAR.

PROJECT EXPERIENCE

Real-Time Aircraft Tracking and Identification August 2024-Present

Designed and implemented a real-time aircraft detection and classification system using YOLOv8 and

MobileNetV2, accurately identifying over 60 distinct aircraft types.

- Achieved real-time processing speeds of 30+ frames per second on GPU-enabled systems.
- Enhanced classification accuracy by ~15% through the integration of confidence scoring and historical data analysis.

AI-Generated Scientific Paper Detection September 2023-December 2023

Program designed to detect AI-Generated scientific content.

- Prediction accuracy of 93%, more accurate than most publicly available models.
- Leveraged Bi-Directional LSTM with text embeddings.

Autonomous Navigation Robot January 2023-April 2023

Created an autonomously navigating robot in C.

- Added sensor suite(LIDAR, ultrasonic sensors, color sensor) to allow for environmental navigation.
- Utilized I2C/RS232 protocol for hardware signal translation.
- Interrupt-based motor control implemented for fine-tuned movement.

ADDITIONAL INFORMATION

- Team captain in hockey and lacrosse.
- Tutor: Arizona State University (6 hours/week).