David Exiga

409-656-7728 | edavid9@gatech.edu | linkedin.com/in/david-exiga

Experience

AI Engineer Jun 2022 – Aug 2025
General Motors *Austin, TX*

- Improved 2D detection and 3D registration computer vision models by 50% through synthetic data generation
- Enhanced defect inspection accuracy by 30% via 3D object registration testing and failure detection
- Reduced data pipeline latency from 5 minutes to 1 minute by developing scalable ROS2 microservices integrated with AWS cloud infrastructure for high-throughput data analysis
- Automated robotic inspection systems by integrating a ROS2 API to control a FANUC CRX-10iA/L collaborative robot for pneumatic actuation and inspection automation
- Engineered a cost-effective line-scan camera system for collecting steel beam data, enabling the development of failure detection algorithms

Hardware Engineering Intern Sep 2021 – Nov 2021
Maidbot *Austin, TX*

- Developed a regression model to predict poor robotic performance using statistical and ML methods, reducing manual inspection time by 30%

Mechanical Engineering Intern Jun 2021 – Aug 2021
Texas Instruments *Dallas, TX*

- Designed high-precision opto-mechanical components for a 160W near-infrared laser used in industrial 3D resin printing, leading to a 10x cost reduction in prototyping
- Applied materials science and finite element analysis to optimize heat dissipation, optical alignment, and structural reliability

Applications Engineering Intern Jun 2020 – Jul 2020
Wilder Systems Robots *Austin, TX*

- Ensured sensor calibration accuracy and robotic safety by designing plastic and sheet metal components

Education

Georgia Institute of Technology Expected Dec 2026
M.S. Computer Science (Machine Learning Specialization)

- Coursework: Machine Learning, Reinforcement Learning, Deep Learning, GPU HW/SW, AI for Robotics

University of Texas at Austin May 2022
B.S. Mechanical Engineering (Robotics Concentration)

Projects

Generating Music Using an LSTM Neural Network [link]

- Designed and trained a recurrent neural network (LSTM) to model temporal patterns in 100 MIDI songs, generating unique pop music via stochastic sampling

Deep Learning Optimization with Generative AI [link]

- Implemented stable diffusion data augmentation (DiffuseMix) to double the training dataset with semantically diverse variations
- Trained custom CNN and Vision Transformer architectures from scratch, achieving 8% and 1.49% accuracy boosts respectively by leveraging DiffuseMix

Technical Skills

Programming Languages: Python, C, C++, SQL
Machine Learning and Data Science: PyTorch, Keras, Scikit-learn, LangChain, LangGraph
Robotics and Engineering: ROS, ROS2, Open3D, OpenCV, FANUC, SolidWorks, ANSYS
Cloud and DevOps: AWS, Azure, Docker, Kubernetes, Linux, Git