David Exiga

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Experience

Software Engineer Jun 2022 – Aug 2022
General Motors *Austin, TX*

- Improved 6D object pose estimation for manufacturing inspections by 50% through synthetic data generation
- Enhanced inspection accuracy by 30% via 3D object registration testing and failure detection
- Reduced 3D geometry pipeline latency for scalable data access from 5 minutes to 1 minute by implementing a ROS2 server with AWS
- Automated a pneumatic actuator on a FANUC CRX-10iA/L robot by building a ROS 2 server API
- Prototyped a monitoring system for C-channel and I-beam integrity

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

- Developed a regression-based ML model to predict poor robotic performance, reducing inspection time for cleaning robots

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

- Designed high-precision mechanical components for a 160W near-infrared laser used in industrial 3D resin printing, contributing to a 10x cost reduction in prototyping

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

- Ensured sensor 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)

- Relevant Coursework: Machine Learning, Deep Learning, AI for Robotics

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

Projects

Generating Music using an LSTM Neural Network

- Used Long Short-Term Memory (LSTM) neural networks to generate pop music from MIDI files, training on note sequences to learn musical structure and timing

Automatic Ball Launching Robot

- Developed an MSP432 robot that navigates autonomously and shoots balls via dual motor flywheel using C and embedded systems

Technical Skills

Programming Languages: Python, C, C++, SQL
Robotics: ROS/ROS2, FANUC, Open3d, OpenCV, Solidworks, ANSYS
Deep Learning & Machine Learning: Pytorch, Keras, Xgboost, Scikit, Pandas, Numpy
Tools: Git, AWS, Azure, Docker, Kubernetes, Linux