# David Exiga

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## Experience

**Software Engineer** Jun 2022 – Aug 2025
*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
- 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, 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 & Engineering:** ROS (Robotic Operating System), ROS2, FANUC, Open3d, OpenCV, Solidworks, ANSYS
**Deep Learning & Machine Learning:** Pytorch, Keras, Xgboost, Scikit, Pandas, Numpy
**Tools:** Git, AWS, Azure, Docker, Kubernetes, Linux