David Exiga

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Experience

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

- Improved machine vision (GDRNPP) model accuracy by 50% through synthetic image generation using BlenderProc for 6D object pose estimation
- Enhanced the accuracy of car door inspections by 30% through improved 3D registration modeling and failure detection using PyTest validation
- Optimized 3D geometry data pipeline by integrating AWS S3 with a ROS2 server, reducing retrieval and preprocessing time from 5 minutes to 1 minute
- Automated a vacuum gripper on a FANUC CRX-10iA/L Robot to pick and place parts using ROS2
- Designed and prototyped device to collect time series data for inspecting C-channel and I-beams used to transport cars, enhancing the maintenance efficiency for cross-functional engineering teams

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

- Reduced quality inspection time for cleaning robots by developing regression-based machine learning model that predicts poor performance based on various properties

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

- Designed mechanical components of 160 Watt Near Infrared Laser Prototype for 3D resin printing

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 May 2026
M.S. Computer Science (Machine Learning)

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

Projects

Generating Music using an LSTM Neural Network | *Python, Keras*

- Used Long/Short Term Memory (LSTM) Neural Networks to generate pop music from MIDI files

Automatic Ball Launching Robot | *C*

- An MSP432 robot that autonomously navigated and launched balls through a hoop using a dual motor flywheel

Technical Skills

Languages: Python, C, C++
Frameworks: Robot Operating System (ROS/ROS2), Pytorch, FastAPI
Developer Tools: Git, Linux, Docker, Kubernetes, Amazon Web Services (AWS), Azure

Leadership

Committee Member Jan 2023 – Present
General Motors *Austin, TX*

- Plan community events for Hispanic engineers and drive outreach for opportunities with local schools

Lead Dynamics Engineer and Member Jan 2019 – Jan 2021
University of Texas' Solar Vehicle Team *Austin, TX*

- Led a team of 6 in the design of the suspension system for the Formula Sun Grand Prix race car
- Used 3-D CAD and dynamic modal analysis