

Aaron Angert

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OBJECTIVE

To deliver value from technical leadership, communication, and teamwork within a full-time role in the autonomous vehicle field.

PROFESSIONAL EXPERIENCE

GENERAL MOTORS – AUTONOMOUS VEHICLE HIL SIMULATION ENGINEER, MILFORD MI, 2023-
Employed significant contributions including devising robust solutions to critical active safety features, drove enhancements in code and repository management, automated processes, and lead cross-functional team initiatives
TECHNICAL SKILLS: Python, C, Git, dSPACE, Virtual Test Drive, CarSim, Matlab, Simulink, ARXML/AUTOSAR, Control Desk, INCA, Vehicle Spy, DFSS training

IBM – SOFTWARE ENGINEER, AUSTIN TX 2014-2017
Deployed and maintained Openstack cloud IaaS platform. Developed and managed internal monitoring tools for deployed cloud.
TECHNICAL SKILLS: Flask, Ansible, Couchdb, DevOps
PM SKILLS: Agile development, Scrum, Sprints, Jira, Git

EDUCATION

MS, PHD TRACK – COMPUTER SCIENCE & ENGINEERING **BS – COMPUTER SCIENCE**
TEXAS A&M UNIVERSITY – **2017 - 2022** UNIVERSITY OF TEXAS AT AUSTIN
Autonomous vehicles and motion planning under supervision of Dr. Song – Net Bot Laboratory Graduated **2014**
3.8/4.0 GPA, Graduated Fall **2022**

PUBLICATIONS

Proprioceptive Localization Assisted by Magnetoreception, IEEE RA-L **2019**
Neural information retrieval: at the end of the early years. Information Retrieval Journal **2017**

AUTONOMOUS VEHICLE COMPETITIONS AND AWARDS

SAE AUTODRIVE CHALLENGE™ I/II 2019–2022
Team captain of a group of eight graduate students for the Autodrive challenge autonomous vehicle competition. Major focus on program management deliverables, local motion planning, behavior state machines, HD map integration, systems engineering and vehicle simulations.
TECHNICAL SKILLS: Matlab, Simulink, Unreal, ROS/ROStest, ArcGIS, Python, C++, RQT-Gui, linux, Github
PM SKILLS: Gantt charts, Pert analysis, Critical path analysis, WBS, CDR
OUTCOME: 1st place Overall Dynamic Challenge I year 4
1st place Highway Challenge II year 1
2nd place Simulation Challenge II year 1
2nd place Overall & Dynamic II year 1
3rd place Simulation Challenge I year 3

INDY AUTONOMOUS CHALLENGE 2020–2021
Developed motion planning software for a simulated Indy 500 race
TECHNICAL SKILLS: Python, Ansys SCADE, ROS 2, RTI Connex DDS, Simulated lidar, Camera, Radar
OUTCOME: 3rd place final simulation race

PASSION PROJECTS

AUTONOMOUS VEHICLE SIMULATION 2019 - 2022
Simulation within Matlab, Simulink, and Unreal Engine environments. Virtual outputs included Lidar, camera, IMU Sensor fusion. Challenges included collision avoidance, traffic light interaction, emergency braking, and waypoint following. Our team placed 2nd overall.

LOCAL MOTION PLANNING 2020-2021
Direct management over development of the local motion planner for our Chevrolet Bolt autonomous vehicle as a part of the Autodrive Challenge™ I year 4. Behaviors included stopping, crosswalk navigation with pedestrians, turns and turn signals, and dynamic obstacle avoidance.

SKILLS

LANGUAGES: Python, C++, Java, C#, Javascript, Matlab
PROJECT MANAGEMENT FOR MOBILITY ENGINEERS: Feasibility assessment, FMEA, Stakeholder grid monitoring, Risk management
SIMULATION: Simulink, CarSim, dSpace, VTD, Unreal, Unity, SUMO, HIL/SIL testing
ROBOTICS/AI: Machine learning, Computer vision, Motion planning, SIFT, Kalman filtering, CNN, YOLO (traffic light/sign detection), Motion planning (RRT, PRM, A*)
HARDWARE: IMU, GPS, Lidar processing, Camera, CAN bus, Embedded systems, ESP8266