Aaron Angert

281-455-3872 • adangert1@gmail.com • www.aaronangert.com

OBJECTIVE

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

EDUCATION

MS – COMPUTER SCIENCE & ENGINEERING
TEXAS A&M UNIVERSITY
Autonomous vehicles and motion planning
3.8/4.0 GPA, Graduating Fall **2022**

BS – COMPUTER SCIENCE
UNIVERSITY OF TEXAS AT AUSTIN
Graduated **2014**

PUBLICATIONS

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

PROFESSIONAL EXPERIENCE

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

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 software for motion planning for a simulated race vehicle on the Indianapolis motor speedway within the Ansys SCADE software suite, using a Python and DDS communication stack.
TECHNICAL SKILLS: Ansys SCADE, ROS 2, RTI Connext DDS, Simulated lidar, Camera, Radar
OUTCOME: 3rd place final simulation race

PASSION PROJECTS

AUTONOMOUS VEHICLE SIMULATION **2019 - 2022**
Leadership and management over simulation of our Chevrolet Bolt within the Matlab, Simulink, and Unreal Engine environments. Virtual outputs included Lidar, camera, IMU, which were used to test vehicle modules directly through ROS. Challenges included collision avoidance, traffic light interaction, stopping, emergency braking, and waypoint following with Software in the loop testing. Our team placed 2nd overall.

LOCAL MOTION PLANNING **2020-2021**
Direct management and responsibility 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, rail road crossings, dynamic obstacle avoidance. A rqt-gui was created to translate and test behaviors mapped from Mcity to the Rellis testing facility.

PROGRAM MANAGEMENT

GRADUATE ASSISTANT LECTURER **2022**
CSCE 482: Senior design capstone
Oversaw 30 students split into eight projects for the SAE Autodrive Challenge™

SKILLS

LANGUAGES: Python, C++, Java, C#, Javascript, Matlab
PROJECT MANAGEMENT FOR MOBILITY ENGINEERS: Feasibility assessment, FMEA, Stakeholder grid monitoring, Risk management
SIMULATION: Simulink, Unreal, Unity, SUMO, 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