JAWAD IQBAL

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I am a software developer passionate about creating useful tools and drawing from a breadth of experience ranging from manufacturing and mechanical design to data science and web development

EDUCATION

University of Georgia

Masters Mechanical Engineering (Research Focus in Robotics/Mechatronics) | Graduation: May 2020

BS Mechanical Engineering (Emphasis in Modeling and Controls) | May 2019 | GPA:3.5 | EIT Certified

EXPERIENCE

Lockheed Martin Applications Engineer Aug 2020 - Present

- Project lead managing a $250k IRAD and 5 person team to develop a search and semantic query assistant for easier search through design documentation. **Django**, **Elasticsearch, AWS , RASA. Gitlab Pipelines, Agile Project Management**
- Proposed and solo developed an enterprise wide mobile compatible web app for performing audits, Over 200 unique users and reducing 461 hours/month of manual work enterprise wide. App development using **Django, JavaScript, Container Deployment, Pivotal Cloud Foundry, AWS, Gitlab Pipeline, Bootstrap**
- Developed a computer vision web app that uses optical character recognition to extract serial-id text from a tool and cross-reference with tool inventory database to log inventory; reducing time to audit a tool box from 1 hr to 15 minutes. **Dash Plotly, AWS, Tesseract OCR**
- Lead in developing guidelines and framework for citizen development within Lockheed to guide development of maintainable and extensible projects. **Confluence, Draw.IO, Domino**

Masters Graduate Researcher 2018 - 2020

- Designed and developed a differential drive autonomous robot. **Mechatronics, SBC, Linux, Sensors, ROS**
- Developed autonomous control and path planning systems in **Python** and **C++** that utilizes forward and inverse kinematics of an unmanned differential drive ground vehicle for autonomous GPS waypoint navigation.
- Designed complex CAD assemblies in **Fusion360/Solidworks** for UGV Sensor Mounting and robot arm.

ABB Mechanical Engineering Co-Op 2016- 2018

- Worked full-time heavily involved with optimization of production workflow (**Lean Flex Flow, Six Sigma**) of manufacturing cells through **discrete event simulation** (**Simul8**) under supervision of the plant manager.

LEADERSHIP

BSAIL Robotics Systems Lead 2018-2020

- Supervised 15+ undergraduate students on interdependent robotics projects that fulfilled research lab's goal of developing autonomous robot technologies for surveying and data collection
    - CURO Research: Custom Low Altitude Surveying Drone using low cost multispectral cameras.
    - Senior Capstone: Custom servo-based robot arm with an RGB camera end effector for multiangle imaging

President: Student Aerospace Initiative (SAI) 2017-2019

- President of Aerospace Engineering Club at UGA
    - Ranked the top engineering club within the College of Engineering at University of Georgia for 2019
- Captain of engineering team that placed top 5 for national rocket competition

PUBLICATIONS

- Simulation of an Autonomous Mobile Robot for LiDAR-Based In-Field Phenotyping and Navigation , https://doi.org/10.3390/robotics9020046

- Development of a Multi-Purpose Autonomous Differential Drive Mobile Robot for Phenotyping and Sensing, https://doi.org/10.3390/electronics