Srijan Duggal

sduggal8@gatech.edu • 504-239-2982 • srijanduggal17.github.io • Atlanta, GA • US Citizen

Eagle Scout

Personal Statement

A curious, passionate, and hard-working engineer (mechanical and beyond) with a variety of technical exposure and strong communication skills. Key experiences in mechatronics, structural analysis, controls, test engineering, data analysis, machine learning, and web development (interdisciplinary work is my dream). My goal is to use engineering to help others as directly as possible, and I am excited to be a well-rounded, modern engineer on your team. Graduating with my MS in ME in May 2022 and looking for full-time roles. Please check out my work at srijanduggal17.github.io!

Education

Georgia Institute of Technology   **Atlanta, Georgia**
MS in Mechanical Engineering (Automation and Robotics)   *Expected May 2022*
BS in Mechanical Engineering, Minor in Robotics   **GPA 4.0**   *May 2021*

Skills

Design: SolidWorks, Engineering analysis, Autodesk Eagle, Cloud Architecture, Object Oriented Design
Programming: Python, MATLAB, C++, MySQL, JavaScript, PyTorch, ROS, Node.js, React.js
Communication: Technical documentation and presentation, coordinating teams and expectations, planning of milestones

Experience

Low-Cost Neonatal Incubator for Lekma Polyclinic in Accra, Ghana   *January 2021 — Present*
Continuation of Senior Design Project at Georgia Tech
- Designing, prototyping, and testing for a highly constrained environment (sterilizability, local manufacturing, fully analog)
- Evaluated structural alternatives and designed components with SolidWorks
- Led the integration of electrical and mechanical systems (identifying interfaces, physical layout, mounting patterns)
- Exposure and understanding of the whole system, writing documentation

R&D Test Engineering Intern – Logistics & Materials Handling   **Hanover, Maryland**
Intralox LLC – Package Conveyor Systems   *May — August 2021*
- Proposed and implemented computer vision scripts to automate data collection from videos (10x time savings)
- Designed experiments, collected/analyzed/visualized data to identify system capabilities and performance relationships
- Created data-driven, probabilistic models of system behavior to help characterize and control the system
- Communicated key insights to project stakeholders (engineers and decision-makers)

Researcher and Undergrad Hip Exoskeleton Team Lead   **Atlanta, Georgia**
Exoskeleton and Prosthetics Intelligent Controls Lab at Georgia Tech   *Jan 2019 — May 2021*
- Implemented Deep Learning models for user state estimation using TensorFlow and Keras (Publication in IEEE RA-L)
- Developed an exoskeleton control system (electronics PCB design, real-time signal processing and controls on Raspberry Pi with Python and ROS). Designed and performed experiments – data analysis and visualization with MATLAB
- Designed and manufactured 3D printed sensor and electronics housings using SolidWorks
- Facilitated onboarding of new students and teaching workshops on Machine Learning

Modeling and Simulation Intern   **Atlanta, Georgia**
Automation Intelligence LLC – Digital Twins and Automation Optimization   *May – August 2020*
- Created 3D models of automated sorting systems using Emulate3D and multi-robot path planning algorithms
- Evaluated design alternatives using data analytics from simulations of sorting systems
- Coordinated with the client to understand requirements, provide project updates, demo videos, and documentation

Graduate Teaching Assistant   **Atlanta, Georgia**
ME 2110 – Creative Decisions and Design   *Aug 2021 – Present*
- Train students on physical prototyping and fabrication methods: soldering, laser cutter, wood tools, 3D printer
- Assist students with electronic/mechatronic prototyping: programming with Arduino, controlling actuators, reading sensors

Lead Full Stack Web Developer for JCC Maccabi Games   **Miami, Florida**
Tournament Management Software for Non-Profit Community Fundraising Event   *May 2018 — Present*
- Set up server architecture and implemented REST APIs using MySQL, Node.js, Heroku, Express.js, and AWS
- Designed infrastructure and implemented 30+ pages for Single-Page Web App using React.js, Redux, and AWS Cognito