Srijan Duggal

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Eagle Scout

Education

Georgia Institute of Technology **GPA 4.0** **Atlanta, Georgia**
BS in Mechanical Engineering, Minor in Robotics *May 2021*
MS in Mechanical Engineering *May 2022*
Studied abroad at GT Lorraine in Metz, France (Fall 2018)

Research

Undergraduate Researcher for Hip Exoskeleton Team *January 2019 — Present*
Exoskeleton and Prosthetics Intelligent Controls Lab at Georgia Tech
- Undergraduate team leader, providing support to new students
- Developing Deep Learning models for user state estimation
- Implemented an EMG based controller for a pneumatic exoskeleton
- Created instrumented insole prototype for exoskeleton control during locomotion
- Designed PCBs and circuits for communication with sensors and microcontrollers
- Designed and manufactured exoskeleton parts for various methods (3D printing, machining, waterjet)

Publications

I. Kang, D. Molinaro, **S. Duggal**, Y. Chen, P. Kunapuli, A. Young, Real-time gait phase estimation for robotic hip exoskeleton control during multimodal locomotion, IEEE Robotics and Automation Letters / International Conference on Robotics and Automation (ICRA), May 2021 (under review)

Work Experience

Senior Full Stack Web Developer for JCC Maccabi Games **Miami, Florida**
Eifosoft Solutions *May 2018 — Present*
- Collaboratively founded our software platform and continuously driving our vision
- Mentored two web development interns
  - Created a supportive environment for them to learn, ask questions and gain practical experience
  - Taught them full stack web development concepts, design patterns, and implementation practices
- Striving towards better UX and customer focused design
- Replaced paper-based sports tournament recordkeeping with digital platform for 2500+ users from 7 countries
- Slashed tournament management time/hassle by 70% and improved user experience
- Researched and implemented front-end webapp and server architecture with 20+ pages

Modeling and Simulation Intern **Atlanta, Georgia**
Automation Intelligence LLC *May 2020 – August 2020*
- Communicated with the client to understand their requirements, provide project updates and documentation
- Created 3D models of automated sorting systems with simulation capabilities using Emulate3D
- Simulated system models and analyzed the resulting data to understand relationships between system parameters
- Developed analytics for comparison of different systems driven by customer

Analysis Intern – New Product Development **New Orleans, Louisiana**
Intralox LLC *May 2019 — August 2019*
- Managed project to improve tensile test methods for properties of plastic modular conveyor belts
- Learned about plastic material properties and designed test fixtures to resolve an issue with low measurement resolution
- Assisted with a project to increase FEA simulation accuracy for plastic
- Learned about the injection-molding process and its challenges

Skills

Design: SolidWorks, Autodesk Eagle (beginner), Software Architecture, Object Oriented Programming
Programming: MATLAB, Python, JavaScript, MySQL, Scikit-Learn, PyTorch, TensorFlow, Keras, Pandas,
Courses: Machine Design, Mechatronics, Robotics, Deep Learning, Machine Learning, Control of Dynamic Systems