Prathic Sundararajan

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Education

Georgia Institute of Technology, Atlanta, GA **2018 - [Expected: Dec 2021]**
- Biomedical Engineering Major (BME) **GPA: 4.0**
- Computing and Artificial Intelligence Minor (CS)

Experience

Advanced Manufacturing/R&D Engineering Coop *Edwards Lifesciences* **Jan 2021 – August 2021**
- Developed a new coating technology to improve performance and address scale-up issues for new Edwards' devices.
- Cost analysis models show a potential decrease in coating cost up to 88% per device. Potential savings could be up to $3MM per year by eliminating royalty fees and reducing material costs.
- Executed 5+ DOE's for process optimization to advance a proof-of-concept coating method to commercial grade
  - Decreased cycle time by 764% (from 12 minutes to less than 90 seconds per part)
  - Calculated throughput of a single coating work cell matches that of current Edwards' coating technologies.
  - Improved reliability of coating head by more than 800% (3 to 20+ parts) between failures
- Designed & tested multiple fixtures to achieve process improvements using Solidworks, 3D Printers, Mills and Lathes.
- Took the initiative and became the SME for 3 feature application work cells (Plasma Treatment, Hydrophilic Coating & UV Curing) and for 3 test methods (Contact Angle Test, Friction Test and Coating Thickness Test)

R&D & Quality Engineering Intern *HealthCare Evolutions* **May 2019-October 2020**
- Spearheaded product analysis on an infusion pump (automated data collection, increasing efficiency by 150%+)
- Authored a 26-page technical report detailing performance & documented critical error margin of 20-30%
- Developed initial prototypes of *Ultrashield* (Recently patented Ultrasound Tech aimed to replace standard gel)
  - Utilized heat sealing techniques to create a 3 Layered Hydrophilic Pad: [Currently Commercial]
- Pioneered a new modular mask project to help with COVID-19 and created a complex and ergonomic CAD design
- Led a cross functional team to address needs of all stakeholders and served as technical Solidworks lead

Undergraduate Researcher *Global Health Initiatives, GT* **August 2019- August 2020**
- Improved the efficiency of non-invasive sensor diagnostic tech (ppg) prototype (hardware & software)
  - Revamped the Sensor & MATLAB Program interface (Sampling Rate Increase of 150%)
- Implemented continuous signal acquisition & live data visualization to streamline testing procedure
- Wrote preliminary testing protocols based on our new improvements to be used in IRB Approved Study
- Created feature extraction techniques to implement novel quality standards & presented at BMES 2020

Undergraduate Researcher *Exoskeleton & Prosthetic Intelligent Controls Lab, GT* **Jan 2019- May 2019**
- Implemented live data visualization to allow for tuning control parameters without pausing model during testing sessions (Increased efficiency by 25% & decreased testing time from 180 mins to 145 mins)

Leadership

BME Robotics (Brain Vision Team) – *Technical Project Manager* **2019-Present**
- Guiding a team of younger undergrads with a focus on building an AI robot with computer vision systems
- Aligning on project scope with key stakeholders and creating a vision for development in next 3+ years

Suit Up Professional Preparation – *President* **2018-Present**
- Lead a team of 30+ in executing events for over 100 attendees while transitioning to a virtual environment
- Designed and executed an ambitious rotational program for members at all levels to gain leadership experience
- Implemented unique initiatives that increased member retention by 33% and executive board applications by 325%

Students Consulting for Non-Profit Organizations – *Sr. Business Analyst* **2018-2020**
- Mentored a team of analysts creating a report to increase donor retention using 15,000 data points (MATLAB)

Projects & Awards

DOJ Forecasting Challenge (ML/AI) [1st out of ~400 Individuals- $23,000 Prize] **May 2021 - July 2021**
Georgia Tech $1B+ StartUp Hackathon *[Finalist out of ~193 Contestants]* **April 2021**
Hospitality Inc. Analytics Challenge *[2nd Place out of ~100 Contestants - $800 Prize]* **March 2021**
CarMax ML/AI Data Analytics Showcase *[1st Place out of ~200 Teams - $3,000 Prize]* **February 2021**
Emory/GT COVID-19 Hackathon *[1st Place in Track out of 690 Participants - $1,000 Prize]* **May 2020**

Skills

Technical: 3D Printing, SolidWorks, Machining [Familiar], Simulink, PPG, ECG, Catheters, Coatings & Pumps
Programming: Java, Python, MATLAB and Apps/GUI, Arduino & HTML/CSS/JS
Certifications: Biotechnology Lab Assistant & CITI Training (Biomedical Research Investigators & GCP)
Interests: Soccer, Technology, Hiking/Nature, Air Traffic Control, ML/AI, Video Games, Youtube & TV Shows