SHIREEN DATTA

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SUMMARY

Graduate student in Aerospace Engineering with previous experience in automotive and technology consulting spaces. Passionate about engineering education and outreach to inspire the next generation of explorers. Looking for research and experience opportunities in systems engineering, flight mechanics and controls, and sustainable aviation/spaceflight.

EDUCATION

M.S. Aerospace Engineering, *Aug 2019 - Present*
Georgia Institute of Technology **GPA: 3.4**

B.Eng. Mechanical and Manufacturing Engineering, *Sep 2016 - May 2019*
Trinity College Dublin **GPA: 3.8 (converted)**

Certified edX Courses, Astronautics, Human Spaceflight, Aerospace Structures/Materials *Aug 2016 - Present*
Massachusetts Institute of Technology, TU Delft

EXPERIENCE

Product Engineering Intern, Jaguar Land Rover *Jun 2018 - Sep 2018*
- Built a component optimization tool using Monte Carlo simulation and tolerance stack assemblies, that played a critical role in JLR's first in-house prototype build of an electric drive unit.
- Used Ricardo SABR to model bearing losses and benchmark against PHEV competitor data from Tesla, Nissan, etc.
- Experience in FMEA, metrological validation procedures, and cross-functional collaboration with suppliers/partners.

EU Projects Research Intern, ADAPT Centre (Science Foundation Ireland) *Jun 2017 - Aug 2017*
- Supported the EU Projects team in workprogramme analysis under Horizon2020 calls for space, big data and networks.
- Started up an interview-based initiative to explore gender imbalance in STEM academia at PhD and postdoc levels.

Research and Development Intern, IBM Ireland Lab *May 2015 - Jul 2015*
- Technical writing experience on patents/proposals submitted to EU frameworks in fintech, smart healthcare and telecom.
- Collaborated with IBM Design Studio on visuals presented at management-level meetings, and organized strategic project launch events involving IBM's EU academic/corporate partners.

PROJECTS

Leader/Systems Engineer - ESA Gravity Research School 2020
- Led a multidisciplinary project from ground to first pitch in 2 weeks, exploring impact of hypergravity on nutrient absorption in biomimetic membrane systems. Created system flowcharts and functional diagrams.

Advanced Aircraft Design - TIES Methodology
- Iterative design of a 150pax aircraft to meet stringent performance/economic requirements. Application of DoE, RSM surrogate models, TRLs and MADM through JMP. Communicatied via presentation and detailed technical report.

Thesis Project - Intramuscular Pressure (IMP) Sensing for Biomechanics
- Design/execution of initial experiments to test commercial pressure sensor capabilities in IMP measurement, attempting to establish a IMP-applied loading relationship (used theoretical viscoleastic models and statistical significance analyses).

SKILLS

Modeling Software: Solidworks, AutoCAD, ANSYS Mechanical/Fluent, MADYMO, Ricardo SABR
Data Analysis/Programming: Excel, MATLAB, JMP, Python - basic, HTML/CSS - basic
Engineering: Mechanical/structural/thermal analysis, DoE, MBPS, Material selection, Control systems
Languages: English, Bengali, Hindi, French, German - basic
Extracurriculars: Private Dublin tour guide (CityUnscripted), Martial arts (Bujinkan), Tennis, Indian dance (Odissi)

LEADERSHIP AND STEM ADVOCACY

- Chairperson of an ENACTUS student team, leading an 8-person committee over 1 year to grow society membership by 200%, and initiating 2 social entrepreneurship projects to benefit underprivileged local communities.
- Intel-Trinity Employability Award for demonstrating professional development through academic projects and participation in extracurriculars. Assessed via multimedia presentation in forms of essay, video and live speech.
- Invited speaker at STEM career talks and volunteer for RoboSumo workshops, at high schools across Dublin
- Ambassador for Model UN teams at UK/Ireland conferences, research lead for science debate team at national finals