Agathiya Tharun

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EDUCATION:

UCLA | MS Mech/Aero Engineering | **Class of 2026** | **GTA** for Advanced Topics in MATLAB Programming
Graduate Researcher at **RoMeLa** (Robotics & Mechanisms Laboratory) under Dr. Dennis Hong

Purdue University | BS Mechanical Engr; Minoring in Manufacturing Engr | **Top 12.5% of Seniors** | Class of 2024 | **3.83 GPA**
6X Semester Honors & Dean's List | **Studied Abroad** in Singapore - Bioinspired Materials and Structures | **2X Startup Cofounder**

SKILLS:

General:	GD&T	DFM	CAM	R&D	Machine Shop	Prototyping	FEA	3D Printing	Mfg.
CAD:	SolidWorks	NX	Inventor	CREO	CATIA V6/5	Fusion360			
Software:	MATLAB	Python	C	Java/JS	SQL	VBA	HTML	CSS	AngularJS
Other:	LabVIEW	Arduino	R-PI	PUTTY	VeriCut	AFDEX	Inspire	OpenSim	Jira

EXPERIENCES:

Tesla – *Drive Systems Mechanical Design Engineer* | Geartrain Intern MAY 13, 2024 – AUGUST 16, 2024
• Designed a micron-accurate test rig to support Cybertruck drive units spun at 12k RPM to analyze their vibration signatures.
• Used extensive DFM and GD&T to allow the rig to be modular, multi-purpose, easy to use, and support lubrication.
• Designed and executed experiments on Cybertruck's differential lockers to catch a faulty system before **a driver loses control**.
Worked heavily with electro-mechanical systems, diff-lockers, MATLAB, DAQ units, and CAN buses.

Boeing - *Product Development Engineer* | Weights Intern MAY 30, 2023 – AUGUST 18, 2023
• Led cross-functional initiatives to develop a new high-wing aircraft by advising and defending decisions with loadability analysis.
• Optimized CG envelope study efforts in an airplane loadability analysis tool with VBA. Presented to an executive committee
• Optimized a 777-9 propulsion duct bracket with Inspire's Generative Design and FEM Analysis for weight savings of 29.5%.

SpaceX - *Fairing Refurbishment Engineer* | Launch Intern MAY 9, 2022 – AUGUST 5, 2022
• Supported Falcon 9/Heavy campaigns through executing refurbishment operations, creating/dispositioning issue tickets, defending engineering analysis, and designing refurb planning related to pneumatic, mechanical, and control systems.
• Conducted material analysis, high-level design, and deep vendor screening to develop reusable fairing bagging to **save $764K/yr**.
• Designed, stress analyzed, and mass-produced (**446% savings**) foldable fairing stand extension handles to improve safety & agility.

NASA Resilient Extra-Terrestrial Habitats Institute (RETHi) | Research Position JANUARY 19, 2021 – MAY 5, 2023
Purdue-led project at the Ray Herrick Labs to design/prototype modular vacuum-screwdriver end effectors to allow autonomous robots to repair issues on extraterrestrial habitats. Presented findings at the Purdue Research Conference. My research was highlighted on all Purdue's social media including the official website, YouTube, Facebook, Instagram, LinkedIn, and Twitter.

Designed With Purpose - *Design Engineer* | Internship MAY 17, 2021 – AUGUST 1, 2021
• Produced static and dynamic luxury furniture through learned machine shop skills and craftsmanship. Video documented projects.
• Learned safe machine operation and maintenance table saw, bandsaw, sanders, pantograph/domino routers, lathe, joiner/planar, etc.

Lockheed Martin - *Software Engineer* | Summer & Co-Op Internship JULY 1, 2019 – AUGUST 1, 2020
Developed back-end functionality of security forms and approval workflows. Designed website aesthetic and functionality.

ACTIVITIES:

• **Community**: Purdue Admissions **Tour Guide Employee**, BGR **Team Leader** Volunteer, Habitat for Humanity **Volunteer**
• **Leadership**: **Eagle Scout,** Cary Hall Unit **President**, NTHS **President and Founder**, Purdue Goss Scholars **Leadership** Council
• **Notable Activities**: ASME Podcast **Director and Host**, ASME **Design Lead**, Purdue Space Program

ACHIEVEMENTS:

Eagle Scout | **NESA** Member ('20)
Lockheed Martin STEM Scholarship
1 of 10 Eli Lilly Scholarship ('23)
Top 5 in Ventures Pitch Competition ('24)
Purdue GRIT Award ('24)
Top 11 in Malott Competition ('24)
IN Space Grant Researcher Award ('21)
Top 25 Student ('20)
Certificate of Meritorious Service (600 hrs)
Tamil Fluency - **Seal of Biliteracy** ('20)
3 Arduino Certificates ('21-'23)
FEA, Python, GD&T Certificates ('23)