Abhishek Nair

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SUMMARY

Mechanical Engineering graduate with a focus on Design, Controls and Mechatronics. 4+ years of internship and work experience has allowed for strong leadership, communication, team play and problem solving.

EDUCATION

Bachelor of Engineering in Mechanical Engineering | Purdue University West Lafayette| GPA: 3.2/ 4 | May 2023
Master of Engineering in Mechanical Engineering | Purdue University West Lafayette | GPA: 3.6/ 4 | Dec 2024

TECHNICAL PROFICIENCIES

Tools: CREO Parametric, Siemens NX, Fusion 360, MS Office, Excel (Statistical modeling, Pivot tables, VBA), LabVIEW
Programming: Python (NumPy, TensorFlow), MATLAB, HTML, CSS, LaTeX, Arduino

PROFESSIONAL EXPERIENCE

Manufacturing Research Intern at Mahindra & Mahindra, Chakan, India May 2022 – August 2022

- Conducted 5G connectivity reliability issue root cause analysis for vehicle infotainment systems under varying external conditions, reducing drops in connectivity by 24%.
- Researched and simulated a Simulink-based hybrid powertrain of an existing SUV model, contributing to advanced product concept R&D in analyzing the viability of hybrid models within India.
- Improved VR training programs for new associates, reducing VR adaptation time from 3 hours to 45 minutes through adopting point Kaizen principles.

Supply Chain & Logistics Intern at ITC Limited, Mumbai, India May 2021 – August 2021

- Developed an Excel macro to automate vendor data cleaning and processing, a previously manual process.
- Designed an automated Excel workbook for localized sales data insights and statistical models, supporting project management and troubleshooting, reducing a previously lengthy manual process to a 5-minute automation.
- Created mitigation strategies using data analysis to reduce COVID-19 impact on the supply chain, involving root cause analysis and product support, reducing perishable product wastage by 36%.

Student Manager at Purdue Dining and Culinary, West Lafayette, IN February 2020 – December 2024

- Manage scheduling, onboarding, and promotions for ~130 employees, demonstrating strong management skills.
- Conduct interviews, lead supervisor team meetings, and liaise between the administrative team and student workers, ensuring effective communication and trust.
- Lead dining shifts, directly supervising a team of 20 associates and supervisors, providing hands-on training, and ensuring smooth operations.

ACADEMIC PROJECTS

Automated Transformer-Starship robot | CREO | Product R&D | Rapid Prototyping | Design | ESP32 Microcontrollers
Designed a transforming Starship toy design that may remotely be locomoted (using Blynk) and transport items in a small storage section in its default state and can also be unfolded to a humanoid form resembling the robot characters in the Transformers franchise. The toy is also designed to be safe and engaging to be used by children.

In-Vivo Microrobot development | Fluid Mechanics | Microelectronics| Microscale manufacturing
Developed a microscale robot powered by an external magnetic field to conduct transportation tasks in both an in-vitro and in-vivo environment. The robot was designed to be biocompatible and scalable to swarms to conduct tasks within living tissue, and to be feasibly manufactured with relatively high yields of working robots and a high carrying capacity relative to robot size.

Injection Molding Heat Recovery system | Siemens NX | CFD | FMEA | PCB Design | Manufacturing
Designed and manufactured a prototype system recapturing waste heat from injection molding cooling systems to be reused in the heating operation to reduce process energy usage, as part of a capstone senior design project. Also designed a custom PCB to automate the electronics in the system accounting for changes in sensor data.