Abhishek Ghosh

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EDUCATION

Master of Science, Industrial Engineering   **Jan 2025-Dec 2026**
New York University

Master of Science, Aerospace Engineering   **Jan 2023 – Dec 2024**
The University of Texas at Austin   GPA: 3.5/4.00

Bachelor of Engineering, Mechanical Engineering   **Aug 2018 – May 2022**
Gujarat Technological University, India   CGPA: 9.28/10.00

WORK EXPERIENCE

Graduate Teaching Assistant | The University of Texas at Austin   **Jan 2024 – Dec 2024**

- Support the professor by managing course activities, facilitating discussions, and promoting student engagement in mechanical design and engineering principles, while offering guidance during office hours for technical and conceptual questions.

Graduate Desk Assistant | The University of Texas at Austin   **Jun 2024 – August 2024**

- Provided administrative support to students, faculty, and staff by managing inquiries and ensuring efficient communication.
- Assisted with scheduling, event coordination, and maintaining organized records.
- Supported the day-to-day operations of the department, ensuring a welcoming and professional environment.

Student Manager | Chick-fil-A, The University of Texas at Austin   **Jan 2023 – Jan 2024**

- Supervised and coordinated the daily activities of student employees, ensuring smooth operations and adherence to quality standards.
- Mastered all operational tasks, including opening and closing duties, customer interactions, and order management. Trained new hires on assigned duties, fostering skill development and team integration.
- Managed the cash locker, distributed and reconciled cash for transactions, and ensured daily financial accuracy.
- Monitored inventory levels, placed orders for stock replenishment, and handled incoming shipments efficiently.

Research Intern | Space Technology and Aeronautical Rocketry, India   **Feb 2022 – May 2022**

- Conducted comprehensive root cause analysis and troubleshooting for pressure and temperature sensor simulations, implementing effective solutions to validate performance and reliability.
- Applied advanced MATLAB simulation techniques to enhance sensor data analysis, using methodologies like Kalman Filtering to ensure high accuracy in data interpretation.
- Created technical documentation to communicate design schematics and sensor calibration processes, adhering to relevant standards.

Internship Trainee | Space Technology and Aeronautical Rocketry, India   **Jan 2022 – Feb 2022**

- Created detailed schematics and technical drafts using SolidWorks and Creo PTC for the development of avionics systems and mechanical components, ensuring adherence to industry standards.
- Acquired hands-on experience in rocket model design and project scheduling using OpenRocket, ensuring accurate apogee calculations and timeline management for project milestones.
- Developed and simulated avionics circuits with Proteus and Arduino, utilizing cross-functional collaboration with team members to troubleshoot and refine issues in circuit performance.

Field Engineer Intern | Jyoti LTD, India   **Jun 2022 – July 2022**

- Enhanced skills in machining, motor inspection, and quality control, focusing on precision techniques for effective component integration.
- Supported quality assurance processes, ensuring reliability during motor assembly and testing. Developed engineering documentation to standardize processes and track project status effectively.

ACADEMIC PROJECTS

Supply Chain Network Design – Dollar Tree Project

• Designed a forward supply chain network delivering 1.4M+ units annually under a $0.803/unit cost constraint, incorporating containerization and DRP strategies to exceed 9 inventory turns at factory and DC levels.

• Developed synchronized EOQ/EPQ schedules and year-end inventory plans, ensuring continuity through factory shutdowns and seasonal demand spikes.

• Simulated throughput capacity, ocean freight timing, and cash-to-cash cycles to validate network scalability and financial feasibility.

Project Planning & Control – Relocation Feasibility

• Led a 5-phase feasibility study to evaluate relocating a printer manufacturing facility from NYC to Mexico, applying PMI-aligned frameworks and case-based benchmarking.

• Built a WBS and critical path model using Project Libre, managing 34 tasks across cost modelling, risk analysis, and relocation planning.

• Delivered a final executive report with data-driven recommendations, assessing financial viability, legal compliance, labour impact, and CSR considerations.

Facility Layout & Design – Powdered Laundry Detergent Plant

• Designed a continuous-operation facility to produce 20M units/year, including equipment selection, CAD layout planning, and process flow mapping.

• Calculated equipment footprints and integrated utilities (steam, electricity, water, compressed air) into a functional plant layout.

• Ensured compliance with NEC, IFC, PSM, and OSHA codes while optimizing safety, throughput, and automation (AGVs, bag slitters, WMS)

FlyBye Express – Guided Parachute Drone Delivery System

• Conducted technical feasibility analysis and customer interviews for a novel parachute-based drone delivery system targeting pharmaceutical and emergency response markets.

• Assessed MVP limitations in autonomous guidance and deployment, contributing to a strategic recommendation against immediate investment.

• Led business model development, competitive benchmarking, and IP landscape review to support future patenting and product roadmap efforts.

Strategic Growth Plan for Resource Pointe

• Collaborated with company executives to evaluate financials and market positioning of a staffing solutions firm, identifying new growth opportunities.

• Recommended a targeted expansion strategy to penetrate underrepresented departments by broadening candidate specialization.

• Delivered a financially grounded growth plan enabling revenue diversification and market repositioning aligned with core capabilities.

OYO AI – Go-to-Market Strategy for AI-Powered IT Advisory Tool

• Formulated a go-to-market plan for a SaaS startup offering AI-driven IT and BI advisory services, focusing on startups and mid-sized firms.

• Led market segmentation, revenue modeling, and competitor analysis to refine positioning and launch strategy.

• Proposed integration differentiators (Jira, Azure DevOps) and delivered actionable steps to strengthen early-stage traction and adoption.

Early Wildfire Detection System

• Spearheaded development of an autonomous UAV-based wildfire detection platform using dual-mode sensor integration (infrared and optical).

• Oversaw logistics planning, market research, financial modeling, and provisional patent filing to support early-stage product viability.

• Conducted early investor outreach and commercialization assessment for scaling the detection platform in wildfire-prone regions.

Designing of Rocket Motor Static Test Pad

I contributed to designing and prototyping an avionics system for a static motor test pad using Proteus and Arduino, integrating thermocouples and amplifiers for precise benchmarking. Working in a cross-functional team, I developed, simulated, and documented circuits with microcontrollers to ensure reliable data collection and quality assurance.

Designing of Non-Pyro Recovery System for HIGH POWERED ROCKETS

I designed the avionics system for a non-pyro recovery system in high-powered rockets using Proteus and Arduino. This involved integrating multiple sensors, including BMP 180, GPS modules, accelerometers, SD cards, and servo motors, into the main circuit to simulate the rocket's recovery mechanism.

SOFTWARE SKILLS

- CAD & Simulation
- Ansys, OpenRocket
- AutoCAD & SolidWorks
- Creo PTC & Fusion 360
- Kalman Filtering
- MS Office & Six Sigma

- Signal Processing
- Proteus & Eagle EDA
- Arduino, Arduino IDE
- Programming & Data
- MATLAB & PostgreSQL
- Electronics & Circuit Design

- Adaptability
- Collaboration
- Communication
- Time Management
- Problem Solving
- Attention to Detail