Agnel Jenson A. Paul

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EDUCATION

University of Illinois at Urbana-Champaign **Urbana, IL**
Master of Engineering (MEng) in Mechanical Engineering Expected Graduation December 2024
Coursework: Design for Six Sigma, Data Science in Manufacturing Quality Control and Electronics Cooling

NMIMS University **Mumbai, India**
Bachelor of Technology (BTech) in Mechanical Engineering Graduated May 2023
Master of Business Administration (MBA) in Technology Management (dual degree)
Minors in Operations-Supply Chain Management and Business Analytics

SKILLS

- **Tools:** ANSYS Icepak, AutoCAD, Siemens NX, Python, SolidWorks, Tableau, Fusion360, Minitab
- **Manufacturing:** CNC Machining, 3D Printing, Statistical Process Control (SPC), Technical Documentation, Design of Experiments (DoE), Design for Manufacturing & Assembly (DFMA), Tooling Design, Lean
- **Certification:** Professional Certificate in Electric Cars – TU Delft
- **Spoken Languages:** Fluent in English, Hindi, and Tamil; Intermediate in German (A2)

PROFESSIONAL EXPERIENCE

Micro-Nano Mechanical Systems Cleanroom Laboratory **Urbana, IL**
Mechanical Engineering Student Assistant Jan 2024 – May 2024

- Addressed client's wafer yield quality inefficiencies by optimizing the High-NA Photolithography Process.
- Applied Lean and SPC techniques using Minitab for data analysis, improving process efficiency by 10%.
- Evaluated DoE principles to refine process parameters, resulting in improvement of yield quality by 3%.
- Increased SEM imaging accuracy by 20% through sustainable PVD coatings, enhancing material characterization.
- Created technical reports and Tableau dashboards, recommending improved SOPs and input parameters.

STEM Workshop Instructor **Champaign, IL & Mumbai**
Independent Mentoring Volunteer Oct 2018 – Present

- Devised workshop procedures to streamline delivery and enhance student engagement by 30% in US schools.
- Worked with Teach for India (TFI) to lead a team of eight in delivering STEM-based workshops to 500+ students.
- Volunteered with UIUC's Mechanical Engineering Department to deliver Additive Manufacturing outreach workshops, promoting the undergraduate program to over 50 new high school graduates from Illinois.

The Aviation & Automobile Blogger – Technical Media Startup **Mumbai, India**
Founder Jan 2019 – May 2023

- Led a team of five, managing content schedules, resources, and project timelines to meet business goals.
- Generated $5000+ in revenue through advertising, partnerships, social media management, and travel blogging.
- Supervised cross-functional projects, boosting efficiency by 15% through technical research and content strategies.
- Partnered with Lufthansa Technik and BMW India, organizing factory tours to curate informational content.

PROJECTS & PUBLICATIONS

Research Publication: A Challenging Future of Industry 4.0—New Technologies and Lean Production Systems

- Co-authored research analyzing the integration of Industry 4.0 technologies and Lean Manufacturing methodologies, published in Springer Nature Singapore, March 2023. ***DOI:*** *10.1007/978-981-19-7971-2_5*

Digital Twin Model of a Custom Single-Phase Cooling Heat-Sink for Server CPUs

- Developed a Digital Twin Model of AMD EPYC CPU & custom single-phase cooling heat sink using Fusion360.
- Simulated the digital model with ANSYS Icepak using real-time data to improve cooling efficiency by 12%.

GreenFleetTech – Biomimetic Shark Skin for Electric Semi-Truck Efficiency Improvement

- Increased semi-truck efficiency by 1.5% through drag reduction using biomimetic designs inspired by shark skin.
- Engineered scalable simulations and applications with CFD and Python, evaluating commercial EV feasibility.

2020 Boeing's National Aeromodelling Competition – IIT Madras India

- Ranked Top 3 nationwide by leading a team of four to engineer aircraft prototypes with 25 lbs payload capacity.
- Applied DFMA principles to simplify manufacturing and assembly processes, reducing build time by 20%.
- Performed on-spot disassembly & component analysis, refining our design features to outperform our competitors.