Tryaksh Gupta

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Summary

Technical Product Manager with experience owning enterprise SDKs, B2B Platform software and AI-native workflows across design, simulation, and robotics software. Hands-on with C++, Python, API design, LLMs, and MCP/RAG; strong at rapid prototyping, and translating customer pain points into scalable product improvements.

Education

University of Michigan **Ann Arbor, MI**
Master of Science in Mechanical Engineering, CGPA: *4.0/4.0* *Apr 2023*
Graduate Certification in Computational Discovery and Engineering

Indian Institute of Technology (IIT) Roorkee **Roorkee, India**
Bachelor of Technology in Mechanical Engineering, CGPA: *9.24/10.0* *Jul 2020*

Experience

Dassault Systemes (Spatial) **Broomfield, CO**
Product Manager *Jul 2023 - Present*

- Own product strategy, roadmap, and operations for 3 enterprise SDKs spanning 11 design customers, 75+ simulation customers and 4 robotics partners, representing 12% of Spatial revenue.
- Collaborated with clients' engineering teams to understand pain points in engineering applications; translating technical ambiguity and workflow blockers into production-ready software fixes.
- Led the 0-to-1 launch of the Robotics SDK suite, defining the MVP and APIs, building C++ POCs on a Staubli industrial robot, and cutting expert offline programming time from **1.5h to <20s** via automated path solving.
- Revamped GTM for the flagship Constraint Design Solver SDK, expanding into robotics markets, building sales confidence through product POCs, and securing 3 major wins with **∼40% YoY** product revenue growth.
- Delivered technical engineering support to capture **5 high value EDA/EM accounts**, expanding meshing SDK footprint; honored with the **Spatial Excellence Award 2025**.
- Architected AI-native developer workflows using a RAG-enabled MCP server, accelerating client enterprise deployment pipelines across 3 core SDKs.

University of Michigan **Ann Arbor, MI**
Research Associate II *Dec 2021 - Jul 2023*

- Collaborated with Toyota battery research team to build a novel computational framework and control system, studying complex aging process in solid-state batteries.
- Built data pipelines to convert real battery images into simulation-ready datasets, scaling multi-physics simulations on HPC infrastructure across 200+ operating cycles
- **Publication**: Zhang, X., Gupta, T., et al. (2024). A treatment of particle-electrolyte sharp interface fracture in solid-state batteries with multi-field discontinuities. **JMPS**, 182, 105490.

Tesla Inc. **Fremont, CA**
Equipment Design Engineering Intern *May 2022 - Aug 2022*

- Designed and deployed a sensor-driven cell-cleaning system for battery manufacturing with vendors and production stakeholders; proved a ∼6% yield improvement.

Projects

NextGen News: AI-Native Daily Learning Platform (Founder, Live Product) *nextgenyouth.in*

- Built and launched a live AI-native daily learning product as a solo builder, using Next.js, TypeScript, GitHub Actions, Vercel, structured LLM outputs, AI image generation, and Copilot-assisted development
- Designed and shipped multi-model AI publishing pipeline that generates, validates, and deploys youth-focused news stories; publishing 100+ live stories at ∼$0.10 per story and under $3/month in operating cost.
- Engineered an 8-stage automated validation spanning data quality, pedagogy, and LLM content safety; advanced to the AJVC finals with a live product and GTM strategy..

Skills

Product: Strategy, Roadmaps, GTM, 0-to-1 launch, Product Metrics, Executive Storytelling, Jira
Technical: Python, C++, SQL, TypeScript, Next.js, Node.js, Git, Linux, Shell/Bash, API design, SDK Integration
AI/LLM: LLM Applications, RAG, MCP, AI Agents, Prompt Engineering, Evals & Validation, Safety & Guardrails