SPARSH NAGPAL

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AI Product Owner transitioning into Product Management, specializing in Generative AI and ML products with proven business impact. Experience spans fast-moving startups (0→1) and enterprise aviation (1→100), with end-to-end ownership from roadmap and UI/UX to deployment and adoption. Passionate about translating complex AI capabilities into measurable business value.

WORK EXPERIENCE

The Boeing Company | Data Scientist 2 - Supply Chain Analytics Products| Seattle, WA, USA   Jun 2024 – Present
- **Sales Order Cancellation Prevention System:** Planned and built ML early warning system analyzing 50+ parameters to identify at-risk orders worth $200M+ annually. Conducted RCA, then deployed automated part substitution solution using cross-database search to recommend alternatives.
- **Agentic Text2SQL RAG Chatbot Platform:** Owned roadmap, UI/UX design, and cohort-based feedback for a multi-agent Text2SQL chatbot enabling conversational Tableau queries and SQL-to-visualization generation. Development custom evaluations. Reduced analyst turnaround from 4 min → under 30s, cut dashboard effort by 90% (10 hrs/week saved), drove adoption across 4 business units (100+ users).
- **GraphRAG for Contract Intelligence:** Directed OCR model research (Tesseract, LayoutLM, DocTron) and delivered pipeline for clause extraction. Improved compliance accuracy 25% and reduced review time by 30%.
- **Recognition:** Converted from Intern → Full-time based on performance; Led winning NLP solution at Boeing Hackathon 2024 (2× accuracy improvement); Named Top 100 Intern in U.S. (WayUp & Yello).

Flavor AI | AI Engineer - Product Development (3 months contract) | Remote, India   Jun 2023 – Sep 2023
- **Product Roadmap & Market Research:** Collaborated with founders to define the roadmap for a Generative AI-based Product Ad generation MVP, conducted competitor benchmarking, evaluations, client interactions, and market research to guide feature prioritization.
- **Image Generation Platform:** Enhanced background replacement quality 2× using LoRA, ControlNets, and prompt engineering.

Appyhigh Technology | Machine Learning Engineer - Gen AI and Content Products| Remote, India   Mar 2022 – Jun 2023
- **AI Avatar App:** Built and successfully launched Face Avatar Generative AI app with 1,000+ DAUs within a month and $12 ARPU.
- **Diffusion AI Editor Platform:** Managed roadmap (1M+ users), feature prioritizing & development (eg background editor and object removal) and coordinated across business and engineering teams.
- **Content Feed & Recommender:** Owned SDK powering 15+ apps; drove roadmap, optimized ranking logic, and ran A/B testing for personalized feeds. Built 25+ dashboards analyzing 50M+ docs to guide product/content decisions. Boosted DAUs from 2M → 3.5M (+30% engagement).
- **Intern to Full Time:** Promoted from Intern to Full-time ML Engineer in Sep 2022 based on performance of content-feed SDK.

Friends for Inclusion | ML Intern at Founder's office | Remote, India   Mar 2021 – Mar 2022
- **R&D** with Founder:: Partnered with the founder during research & design of India's first Text-to-ISL translation app, achieving 97% comprehension.
- **Research Publication**: Published at Microsoft-backed IIIT-B Empower Conference (A top tech-accessibility conferences in the country)
- **Development Leadership**: Led Translation model and backend deployment (AWS Lambda, DynamoDB, Docker), cutting response time by 60%.

PROJECTS / VOLUNTEER

Model-Agnostic LLM API Router (Personal Research Project)   Oct 2025 – Present
- Developed LLM routing platform optimizing cost, complexity, and capacity across providers via DistilBERT decision engine (ONNX).
- Integrated monitoring (Grafana/Prometheus) and built production API reducing organizational LLM costs 40-60% while maintaining output quality.

LLM Traffic & Brand Monitoring System (Personal Research Project)   Oct 2025 – Present
- Built enterprise-grade AI-Platform digital advertising SaaS. It includes a traffic monitoring system with a Visibility Score calculated replicating web search capabilities of AI/LLM tools, scoring for potential current engagement (AEO / GEO) and additional brand visibility metrics.
- Developed MCP kit orchestrating 30+ Custom SEO APIs via Lang multi-agent libraries. Designed agentic chatbot for automated audits, web issue detection, and data-driven insights with intelligent tool routing using LLMs. Added necessary middlewares such as Human-in-loop and summarization.
- Built complete UI UX interface, backend and database integration and web Deployment using tools such as Figma, Cursor and Vercel.

Resume Intelligence Platform (Volunteer for a corporate training firm)   May 2025 – Oct 2025
- Built resume intelligence tool parsing 2000+ resumes with Gemini LLM, indexed in Supabase VectorDB, and created hybrid semantic/rule-based matching. Integrated Google Drive API for CRUD and delivered $0 infra cost deployment. Integrated Advanced RAG techniques.

EDUCATION

University of Washington   Seattle, WA, USA
Master of Science in Data Science   2023 - 2025

University of Mumbai   Mumbai, Maharashtra, India
Bachelor of Engineering in Computer Engineering   2018 - 2022

SKILLS

Product Prototyping: Cursor, Figma, V0 by Vercel, Supabase, Lovable, Figma, A/B Testing, User Research & Interviews, Agile & Scrum.
AI/ML Specialization: LLMs, RAG Architecture, Multi-Agent Systems, Diffusion Models, Prompt Engineering, NLP, Computer Vision, Recommender Systems, Machine Learning Models, Text-to-Speech
Programming & Data: SQL, Python (Advanced), Tableau, Statistical Analysis, Spark, HTML, CSS, Javascript, DB tools (NoSQL, VectorDB, NeoJ4, etc)
Technical Frameworks & Ops: LangChain, FastAPI, PyTorch, TensorFlow, Docker, Kubernetes, GIT, Huggingface, SEO, GEO