

Devarshi Mahajan

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EXPERIENCE

Stanley, Black and Decker

Pune, India

Machine Learning Engineer - Capstone Project

Jun 2023 – May 2024

- Led cross functional collaboration between factory floor technicians and quality teams for development of a deep learning visual inspection system for power tool armatures that reduced inspection time by 60% and minimized manual labor
- Architected a two layer CNN to extract 754 image features along with autoencoder based anomaly detector (32 latent dimensions) for reconstruction error analysis, to meet product requirements for real time defect detection
- Implemented and optimized a threshold linear regression classifier using standard deviation and cosine similarity as error metrics to achieve an 80.01% F1 score
- Spearheaded the end-to-end project, from creating a proprietary dataset with a Dino camera to deploying a production ready prototype on a local system for smart factory integration

Digilocker

Remote

Software Developer Intern

Aug 2022 – Jan 2023

- Engineered a secure document pipeline for the Indian Navy, by developing CSV to MongoDB data ingestion using NodeJS Wrapper API and JWT authentication, cutting manual processing time to 60%
- Explored the architecture of a scalable real time ingestion service using Apache Kafka and Node.js, analyzing how it achieves near zero latency
- Designed a resilient architecture for 24/7 data uploading to MySQL and AWS S3, ensuring 98% data recovery in case of system failure
- Expanded technical skills by exploring Redis for caching strategies and gaining experience with the CodeIgniter (CI4) framework

D.Y. Patil University

Pune, India

Software Developer Intern

Dec 2021 – Sept 2022

- led a 7 member engineering team in an Agile environment to launch a new ERP system for 3,000+ users, automating academic workflows and reducing manual processes by 75%
- Architected a secure MySQL database using a Snowflake schema and Role-Based Access Control (RBAC), boosting data access speed by 40% and enhancing data security
- Managed the end to end product launch on the institute's private LAN infrastructure, achieving 99% uptime

PROJECTS

Customer GenAI Call Analysis | *Airflow, Docker, Whisper ASR, FastAPI, ChromaDB, PowerBI*

GitHub

- Engineered a Scalable AI platform (Whisper ASR, RAG) with an MLOps pipeline (Airflow, Docker) to cut by 70%
- Reduced manual review using fine tuned NLP models for sentiment/topic analysis, delivering insights via a Power BI dashboard

AI Powered Job Assistant Agent | *React.js, Node.js, MongoDB, Express.js, ChromaDB, NLP*

GitHub

- Architected a full stack job search platform using React.js, Node.js, and MongoDB to manage the job listings and user profiles
- Engineered an intelligent chatbot with a RAG pipeline, fine tuning all-MiniLM-L6-v2 embeddings for semantic search and leveraging LLaMA 3.2-3b to provide automated resume analysis and job fit insights

SkyFlow | *Node.js, Docker, PostgreSQL, MongoDB, RabbitMQ, Redis, NGINX, GitHub*

GitHub

- Designed and tested a scalable airline backend system with a microservices architecture, using REST APIs for interservice communication and RabbitMQ (pub/sub) for asynchronous reminders
- Built a CI/CD pipeline with Docker and GitHub Actions for automated builds and deployments, implemented Redis caching and NGINX rate limiting to ensure high traffic loads and scalability

TECHNICAL SKILLS

- Programming Languages: Python, C++, SQL, JavaScript
- Libraries/Frameworks: Tensorflow, Node.js, Express.js, React.js, PyTorch, PySpark, LangChain, Linux, Git
- DevOps and Database: AWS (EC2, S3, Lambda, EKS), Docker, MySQL, NoSQL, GitHub Actions(CI/CD)
- GenAI and tools: LLM Finetuning, RAG AI Tools(Gemini, Claude, Cursor)
- Soft skills: Effective Leadership, Time and Resource Management, Strategic Negotiation, Problem solving

EDUCATION

Master of Science, Northeastern University, GPA - 3.84/4

Dec 2026

Relevant Coursework: Algorithms, Database Management, Data Mining, Gen AI, MLOps

Boston, MA

Bachelor of Engineering, Savitribai Phule Pune University, GPA 3.8/4

May 2024

Relevant Coursework: Data Science, Machine Learning, Data Structures, Operating Systems, Computer Networks, OOPS

Pune, India

LEADERSHIP AND ACHIEVEMENTS

- Achieved Regional Semifinalist in Microsoft Imagine Cup 2023, placing in the top 20 out of 1000+ teams for developing a brain tumor detection model with Swin Transformer
- Founded the DY Patil Coders Club, mentoring 40+ students through workshops, hackathons, and project based challenges to foster a collaborative coding culture
- Co-authored 3 research papers published in reputed venues, including Cornell arXiv and Springer Book Series