Yash Maini

AI/MLOps Engineer

2× IEEE Author | **400+ DSA Problems** | **AWS • MLflow • Terraform**

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LinkedIn | GitHub | LeetCode

Experience

GGSIPU – USAR | Deep Learning Research **Jul 2024 – Present**

Undergraduate Research Associate *New Delhi*

- Led deep learning research in medical and agricultural imaging under **Dr. Sanjay Kumar Singh** (GGSIPU) and **Dr. Pranshu Saxena** (Bennett University); authored 2 IEEE conference papers on image classification using **transfer learning** and **Bayesian optimization**.
- Achieved **97.23% accuracy** in tomato leaf disease classification using optimized **Xception model** and **98.46% accuracy** in breast tumor classification using fine-tuned CNNs with **Population-Based Training**.
- Currently leading a **journal-level study** on breast cancer detection using **MC Dropout** and **temperature scaling** for **model calibration**.

IBM SkillsBuild | Agentic AI: From Learner to Builder **Jul 2025 – Aug 2025**

AI Agent Architect Training Program *Remote*

- Completed 4-week intensive training program on **Agentic AI** and **AI Agent Architecture** in collaboration with **CSRBOX Foundation**.
- Gained hands-on experience in building AI agents, understanding agent workflows, and implementing production-ready AI solutions.

M.K. Associates | Python, Excel, ML, EDA **Jan 2024 – Jun 2024**

Financial Data Analyst Intern *Part-Time (Remote)*

- Conducted EDA on **10K+ financial transactions**, identifying 150+ high-risk anomalies across **700+ client accounts**. Automated reporting workflows, **reducing manual effort by 40%**.
- Built supervised ML models for financial risk classification (**93% accuracy**), enhancing audit precision and regulatory compliance.

Technical Skills

Languages: Python, SQL, Bash, Java, JavaScript
Libraries & Frameworks: Scikit-learn, TensorFlow, Keras, NumPy, Pandas, Matplotlib, Seaborn
MLOps & Tools: DVC, MLflow, Docker, Git, GitHub Actions, Flask, FastAPI, Terraform, Grafana, DagsHub
Databases: MySQL, PostgreSQL, SQLite, MongoDB
Cloud (AWS): EC2, S3, Lambda, ECS, ECR, RDS, Bedrock, SageMaker, CloudWatch, IAM, CLI, CDK
Platforms: Linux, Windows, macOS

Education

University School of Automation and Robotics (GGSIPU) **Nov 2022 – May 2026 (Expected)**

Bachelor of Technology – AI & Machine Learning; ***GPA: 8.6 — Final Year Student*** *New Delhi, India*

- **Courses:** Artificial Intelligence, Machine Learning, Networking, Databases, Operating Systems, Data Structures, Analysis of Algorithms

Projects

CopyGuard – Serverless AI Code Detection Platform [Code] [Blog] [Demo]

- **Technologies:** AWS Lambda, Bedrock Claude v2, Terraform, S3, CloudFront, Grafana, MLOps
- Engineered a production-grade platform to **detect AI-generated code** using Amazon Bedrock (Claude v2), achieving **<2s response** time and **∼99.9% availability**.
- Orchestrated full **IaC stack (API Gateway, IAM, CORS, logging) via Terraform & S3 + CloudFront.**
- **Monitored latency/confidence** metrics via **Grafana**; stored **outputs versioned in S3**.

ThreatMatrix – End-to-End MLOps Pipeline for Network Intrusion Detection [Code] [Blog] [Demo]

- **Technologies:** Python, ML, FastAPI, MongoDB, MLflow, DagsHub, Docker, GitHub Actions, AWS EC2
- **Built modular ML pipeline** with data ingestion, validation, training, and prediction components organized under custom internal package architecture.
- **Containerized pipeline using Docker**, automated CI/CD through GitHub Actions, and deployed to **Amazon ECR** for reproducible workflows.
- **Launched FastAPI service on AWS EC2** with real-time endpoints achieving sub-15ms latency, tracked via **MLflow and DagsHub**.

Publications

- **Y. Maini**, S. K. Singh and P. Saxena, "**Xception for Tomato Leaf Disease Detection**: Hyperparameter Tuning and Fine-tuning Approaches," **2024 ICAIQSA**, Nagpur, India, [DOI] [Code] [Blog]
- **Y. Maini**, S. K. Singh and P. Saxena, "**Breast Tumor Classification** with Fine-Tuned Hyperparameter Training using Deep Learning Models," **2025 AI-Driven Smart Healthcare for Society 5.0**, Kolkata, India, [DOI] [Code] [Blog]

Achievements

- Ranked in the **top 11% globally on LeetCode**, with over **450 problems solved** across core DSA topics
- **Qualified GATE** 2025 (Data Science & AI) – Top 8% nationwide, reflecting strong CS and ML fundamentals
- **Leadership Coordinator, Coding Society**, leading coding events and peer activities