

# Shikhar Malik

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## EDUCATION

### New York University

Master of Science - Computer Science (MSCS)

Brooklyn, NY

Sept 2024 - May 2026

Coursework: Deep Learning, Machine Learning, Big Data, Data Science, Data Structures & Algorithms

### Delhi Technological University

Bachelor of Technology - Computer Science (BSCS)

New Delhi, India

Aug 2017 - May 2021

Coursework: Software Engineering, Object Oriented Programming, Database management, Operating System

## WORK EXPERIENCE

### Optum (United Health Group)

Associate Software Engineer

Gurugram, India

June 2021 - August 2024

- Led backend development for high-volume applications processing over 27 million records each quarter, contributing to a \$7M cost savings in the company's paperless initiative.
- Automated critical reports and ETL workflows by developing Python scripts & Java schedulers with MongoDB integration, reducing manual effort, improving processing efficiency and saving the team 15+ hours per week while enhancing operational visibility.
- Resolved a critical memory leak and optimized backend architecture, reducing system restarts from 3+ per day to 0, enhancing processing stability for high-load operations, improving API performance by 100%.
- Migrated critical applications from OpenShift to on-prem Kubernetes, improving system stability from 96% to 99% uptime and implemented CI/CD pipelines using Jenkins, streamlining deployment workflows and automating release processes.
- Took full ownership of 50+ production releases, ensuring deployments passed all the validation checks with zero downtime. Conducting rigorous debugging and root cause analysis for system stability.
- Mentored 10+ new team members, conducting KT sessions, doing code reviews and creating comprehensive documentation to support onboarding.
- Received 14+ Bravo Awards and High Flyer Award in 2022 for outstanding contributions to automation, modernization, optimization and leadership.

### Optum (United Health Group)

Software Engineering Intern

Remote

June 2020 - July 2020

- Developed & optimized unit, integration and load testing using JUnit & JMeter, improving code coverage and maintainability while ensuring applications passed SonarQube quality gates.
- Conducted root cause analysis and collaborated in debugging sessions, to identify and resolve critical production issues.
- Fixed security vulnerabilities and improved code quality by enforcing best practices with SonarLint & CodeQL, reducing future compliance issues and enhancing system stability.

## PROJECTS

### Multimodal Offensive Meme dataset for classification of offensive memes

[ [Link](#) ]

- Created MOM dataset with 1,882 annotated memes covering topics like racism and homophobia for offensive content classification, enhancing model accuracy in detecting hate speech.
- Trained multimodal deep learning models (BERT, BiLSTM, ResNet50, EfficientNet) for offensive meme classification.
- Achieved state-of-the-art performance, improving text classification by 19%, image classification by 175%, and multimodal classification with a 25 percentage point increase in precision using early fusion techniques.

### TailWise - Pet Companion

[ [Link](#) ]

- Developed a pet care web app, enabling food safety checks and AI-assisted diagnosis using ReactJS for frontend and Python with FastAPI for backend.
- Integrated Gemini LLM which provides AI-powered pet food safety recommendations, while overcoming challenges in LLM prompt tuning and multiservice deployment on Vercel.

### Skin Cancer Detection Toolkit

[ [Link](#) ]

- Won 2nd place in the Optum Global Hackathon out of 300+ global teams, developing a full-stack web application for skin cancer detection with real-time image-based predictions using deep learning.
- Built a Flask-based backend pipeline with a DenseNet169 classifier trained on the HAM10000 dataset, achieving 91.2% accuracy. Implemented user authentication system with a SpringBoot microservices and a ReactJS frontend.

## SKILLS

- **Development:** Python, Java, C++, HTML, CSS, React, Spring Boot, Flask, FastAPI
- **Database:** MongoDB, MySQL
- **DevOps & CI/CD:** Docker, Jenkins, Kubernetes
- **Tools :** Git, Linux, Bash, Shell Scripting, Postman, ServiceNow, Agile
- **Testing & QA:** JUnit, JMeter, SonarQube, CodeQL
- **Machine Learning:** Tensorflow, Pytorch, OpenCV, Scikit-learn