Rohan Waghmare

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Education

Binghamton University, State University of New York, Master of Science in Computer Science — Aug 2023 – May 2025

- **Coursework:** Design and Analysis of Algorithm, Operating System, Computer Networks, Design Patterns, Computer Security, Systems Programming, Data Mining, Social Media Data Science Pipeline, Programming Languages

School of Engineering, MIT ADT University, Bachelor of Technology in Computer Science — Aug 2019 – May 2023

- **Coursework:** Computer Architecture, Database Management Systems, Operations Research, Data Structures, Machine Learning, Deep Learning, Big Data Analytics, Web Development, Information Security, Software Engineering & Project Management

Skills

Languages: Python, C, C++, JavaScript, Swift, SQL, HTML, CSS

Frameworks: Django, React.js, Flask, Node.js, Express.js, SwiftUI, Streamlit, Material UI (MUI)

Databases: PostgreSQL, MongoDB, MySQL, Firebase

Cloud & DevOps: AWS (EC2, S3, Lambda, API Gateway, SQS, SNS, RDS, DynamoDB, Cognito, CloudWatch, IAM), Docker, CI/CD

Tools & Skills: Git/GitHub, Linux/Unix, REST APIs, GraphQL, pytest, Selenium, JIRA, Agile/SCRUM

Work Experience

Software Engineering Apprentice, Michigan Health Information Network – Lansing, MI — Mar 2025 – Present

- Developing a secure, HIPAA-compliant, serverless **Inbox Messaging Platform** using **AWS Lambda (Python)**, **API Gateway (Cognito Authorizers)**, **S3**, and **RDS (PostgreSQL)** for healthcare communications and user settings.
- Implementing backend logic in **Python** for efficient message filtering and ingestion workflows leveraging **SNS**, **SQS**, and **DynamoDB**.
- Collaborating across engineering teams to ensure robust and compliant data pipelines within distributed AWS environments.

Software Engineer, Binghamton Tech Collective – Binghamton, NY — Aug 2024 – Mar 2025

- Developed the official club website using **React.js** and **Firebase**, boosting user engagement by **15%**.
- Optimized performance of a **Node.js** e-commerce app by implementing caching strategies to reduce load times.
- Built key features into a **Swift**-based iOS app for increased accessibility and cross-platform support.

Backend Engineer Intern, Flow – Wilmington, DE — Jul 2024 – Aug 2024

- Improved **Django** backend performance by refactoring APIs and simplifying database queries.
- Built a data ingestion pipeline in **PostgreSQL** for integrating company profiles from **Crunchbase**, **PitchBook**, and **LinkedIn**.
- Refactored legacy codebase using **Docker** containers for easier deployment in a **SCRUM**-based workflow.

Projects

Industry-Specific Layoff Tracker | *Python, Flask, MongoDB, Faktory, NLTK, REST APIs*

- Built an automated data pipeline to scrape and process over **208,000+ records** from Reddit and 4chan using **Python**, **Faktory workers**, and **MongoDB**, enabling high-throughput concurrency and historical data integration for trend analysis.
- Developed RESTful **Flask APIs** with real-time sentiment and toxicity analysis (**98% accuracy**) using **NLTK**, and delivered interactive visualizations through **Matplotlib** and **Plotly** to surface insights into layoff patterns and unemployment discussions.

Clockin - A Time Tracking Tool | *Swift, SwiftUI, WatchKit*

- Developed a cross-platform time tracking app for **iOS** and **watchOS** using **SwiftUI**, **WatchKit**, and **MVVM**, enabling users to clock in/out, monitor break time, and view daily work summaries with earnings based on customizable hourly rates and time goals.

Detection of Tuberculosis using Transfer Learning | *TensorFlow, Transfer Learning, Python*

- Collaborated with a team to compare **InceptionV3, EfficientNetB3, DenseNet201, and ResNet50** models for detecting tuberculosis from chest X-ray images; achieved **90.95% accuracy** on the **TBX11K** dataset.

Real-Time Sign Language to Text Translator | *OpenCV, Deep Learning, LSTM, Gesture Recognition*

- Developed a real-time translation system with **OpenCV** and **LSTM**, achieving **96.43%** gesture recognition accuracy.

Multi-Client File Server Application | *C, Sockets, Concurrency*

- Built a multi-threaded **TCP file server** in C supporting concurrent upload, download, list, and delete operations.

Certification & Publication

- **AWS** Certified Developer Associate
- **AWS** Certified Cloud Practitioner
- **IEEE** A Comparative Study of Detection of Tuberculosis using Machine Learning and Deep Learning