

Rohan Waghmare

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Summary

AWS certified software engineer with 1+ years of experience in back-end, AI/ML, and cloud technologies. Proficient in **Python** and JavaScript, highly teachable, and known for delivering quality work on time. Open to **relocation** and available to start **immediately**.

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, Blockchain Tech, Machine Learning, Deep Learning, Big Data Analytics, Web Development, Information Security, Software Engineering & Project Management

Work Experience

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

- Built a HIPAA-compliant serverless **Inbox Messaging Platform** using **AWS Lambda (Python)**, **API Gateway**, **S3**, and **RDS**.
- Integrated monitoring using **CloudWatch Alarms**, **Timestream**, and **Grafana**, reducing operational costs by 4.2% (\$35K pm).
- Automated NPI data extraction using **Python** and **Selenium**, reducing manual effort by 60%.
- Resolved a critical JWT validation issue in a **Java-based API**, restoring access for over **6,000+ clinical tests** within 24 hours.
- Used **Git-based workflows** and deployed fixes through **Jenkins** pipelines to ensure minimal disruption.
- Took ownership of a **FHIR (HL7)** referral pipeline during a team resource gap and maintained data flow across **8+** healthcare orgs.
- Wrote **120+** automated test cases using **Behave** and **Selenium** for a state-wide health provider directory reducing manual QA time by **5+ hours per release**

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

- Developed a campus marketplace app using **React.js** and **Firebase**, emphasizing data security.
- Implemented email verification, secure real-time messaging, and user reporting systems.
- Led peer code reviews and maintained **Git-based CI/CD** workflows.

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

- Conducted research and prototyped **GenAI** solutions, evaluating feasibility for AI-driven sales enhancements.
- Built scalable **Django/PostgreSQL** data integration pipelines sourcing from **Crunchbase**, **PitchBook**, and **LinkedIn**.
- Refactored backend systems using **Docker** for modular ML deployments within a **SCRUM** framework.

Projects

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

- Built a scalable data pipeline using **Python**, **Factory**, and **MongoDB** to ingest and process over **208,000 Reddit** and **4chan posts/month** for real-time and historical trend analysis.
- Developed **Flask APIs** with **NLTK-based** sentiment and toxicity scoring (**98% accuracy**), and deployed interactive **Plotly** dashboards for keyword tracking and social discourse visualization.

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

- Designed a TB detection pipeline using **Pandas**, **ResNet-50** with **CLAHE** and image augmentation, achieving **92% accuracy** on the **TBX11K** dataset; validated decisions using **Grad-CAM** and standard evaluation metrics (F1, AUC).
- Reviewed 60+ research papers, developed a scoring framework to shortlist 15 viable studies, and co-authored an **IEEE-published** paper contributing to reproducible, infrastructure-aware medical AI research.

Skills

Languages: Python (Django, Flask), C, C++, JavaScript(React, Node, Express), SQL, HTML, CSS

Databases: PostgreSQL, MongoDB, MySQL, Firebase

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

AI ML: Scikit-learn, TensorFlow, OpenCV, LangChain, RAG, Pinecone, NLTK, Pandas, NumPy

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

Certification

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