Rohan Waghmare

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EDUCATION

Binghamton University, State University of New York	Binghamton, U.S.A.
Master of Science, Computer Science	*Aug 2023 - May 2025*
School of Engineering, MIT ADT University	Pune, India
Bachelor of Technology, Computer Science	*Aug 2019 - May 2023*

TECHNICAL SKILLS

Languages:	Python, C/C++, Javascript
Frameworks:	Django, Tensorflow, React.js, Pandas, OpenCV, React.js, Node.js, Express.js, Streamlit, Next.js, MUI
Databases:	PostgreSQL MongoDB, MySQL, AWS (EC2, S3, lambda, API Gateway, SQS, DynamoDB)
Tools & Skills:	Networking (TCP/IP, DNS, Load Balancing), Linux/Unix, Git/GitHub, Docker, Kubernetes, Machine-Learning, Data-Science, Full-Stack, Agile/SCRUM, CI/CD

WORK EXPERIENCE

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

- Led and managed a team of **12** engineers, building a comprehensive data pipeline integrating **web scraping, Kafka, Amazon S3, data transformation, PostgreSQL, AI models,** and **MongoDB**, containerized with **Docker**.
- Developed web scrapers for **Crunchbase, Pitchbook, LinkedIn**, and **CSV files** to standardize and combine data from multiple sources, reducing inconsistency by **33%**.
- Implemented **Kafka** for data streaming, validated **JSON** data, and achieved **99%** data integrity through schema validation and deduplication. Managed secure data backups in **Amazon S3** with **AES** encryption, and designed storage solutions in **Redshift Data Warehouse**.
- Integrated and labeled data for AI model training, improving AI performance. Developed API calls for AI models using **Django**, enhancing backend functionality.
- Collaborated on cloud platform design and maintenance, contributing to reduced downtime. Conducted **code reviews, testing, and troubleshooting**, improving live production deployment efficiency.

PROJECTS

Wallet-io | *MongoDB, Express.js, React.js, Node.js, Typescript* — *(Demo)*

- Built a **TypeScript/React** financial dashboard featuring **9+ Recharts/Material UI charts** for monthly Profit, Revenue, and Loss, indicating **4%** growth. Built backend with **Node.js, Express.js,** and **MongoDB,** using **machine learning** to predict **12%** annual growth.

IntelliPDF | *Python, Streamlit, Langchain, Llama3, OpenAI API* — *(Demo)*

- Created a **Python/Streamlit** app for interactive PDF queries, extracting **10,000+** tokens with **Langchain** and leveraging **OpenAI API** and **Llama3**, achieving **95.3%** accuracy.

Population Density | *React.js, OpenStreetMap, Material UI, Leaflet.js* — *(Demo)*

- Engineered a geospatial app with **React.js, Leaflet.js,** and **Node.js/Express.js,** visualizing population, live country coloring, and travel coverage, achieving **92.5%** accuracy using **OpenStreetMap** and census data.

Sign Language to Text using LSTM | *Tensorflow, LSTM, OpenCV, Python* — *(GitHub)*

- Implemented a real-time sign language to text translator using **Deep Learning, OpenCV,** and **LSTM** networks, achieving **96.43%** accuracy and aiding **6.3%** of the affected population.

RESEARCH WORK

Detection of Tuberculosis using Transfer Learning — *(GitHub)*

- Led a team to evaluate **InceptionV3, EfficientNetB3, DenseNet201, and ResNet50** for TB detection via chest X-rays, achieving **99.95%** accuracy on the TBX11K dataset, aiding **2.4M+** diagnoses nationwide.
- Published IEEE paper titled *A Comparative Study of Detection of Tuberculosis using Machine Learning and Deep Learning*

EXTRACURRICULAR & CERTIFICATIONS

- **Software Engineer** Binghamton Tech Collective
- **AWS** Certified Cloud Practitioner
- **Nvidia** Fundamentals of Accelerated Computing with CUDA C/C++
- **Coursework:** Operating Systems, Computer Networks, Design and Analysis of Algorithms, Design Patterns, Data Mining