Rohan Waghmare

Binghamton, NY
rwaghmare@binghamton.edu | (607) 245 6001 | Github | LinkedIn | Portfolio

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: C/C++, Python, Javascript
Frameworks: Tensorflow, React.js, Pandas, OpenCV, React.js, Node.js, Express.js, Django
Tools & Databases: Git, AWS, Docker, MongoDB, MySQL
Skills: Machine-Learning, Data-Analytics, Data-Science, Front-End, Back-End, Full-Stack, Agile, CI/CD

Experience

Data Analyst Intern — Sep 2022 – Oct 2022
Illinois Institute of Technology — *Remote*

- Developed Python-based web crawlers using **Twitter SampleStream API, Reddit API, and 4chan Catalog API,** cutting data processing time by **32%** and boosting technical proficiency by **41%.**
- Utilized **pandas, numpy, matplotlib, plotly, and seaborn** for data manipulation, analysis, and visualization, improving data interpretation capabilities by **53%** and enhancing presentation finesse.
- Integrated **NLTK** for keyword extraction and created interactive dashboards with **Streamlit** for real-time monitoring and analysis, fostering a **22%** increase in analytical agility and decision-making efficiency.

Projects

Wallet-io | *MongoDB, Express.js, React.js, Node.js, Typescript* *[Link]*

- Built a feature rich financial dashboard frontend using **TypeScript and React** with **9+** visually stunning charts created using **Recharts and Material UI** giving information about Profit, Revenue, and Loss on monthly basis suggesting a **4% growth.**
- Constructed the backend architecture using **Node.js and Express.js with MongoDB** as the database solution and leveraged **machine learning (linear regression)** predicting a **12%** annual growth for the company.

IntelliPDF | *Javascript, Express.js, React.js, Node.js, Docker, OpenAI API*

- Revolutionized PDF interaction by creating a Chrome extension merging **ChatGPT's NLP and OCR tech**; boosted text explanations' comprehension efficiency by **34%** via context-aware insights.

Population Density | *React.js, OpenStreetMap, Material UI, Leaflet.js*

- Implemented an advanced interactive geospatial application featuring population visualization within a selected circle, dynamic country coloring, and calculation of world travel coverage percentage, utilizing **React.js and Leaflet.js** with **Node.js and Express.js** as backend, using **RESTful APIs** for data from OpenStreetMap and census databases, achieving **95%** accuracy in population density calculations.

Sign Language to Text using LSTM | *Tensorflow, LSTM, OpenCV, Python* *[Link]*

- Implemented a real-time sign language to text translation system using **Deep-learning, OpenCV, and Long Short-Term Memory (LSTM)** networks for sequence modeling and prediction with categorical accuracy of **96.43%,** helping **6.3%** of the affected population in the country to communicate.

Research Work

Detection of Tuberculosis using Transfer Learning *[Link]*

- Led a team of **4 students** to evaluate the effectiveness of **InceptionV3, EfficientNetB3, DenseNet201,** and **ResNet50** in identifying Tuberculosis through chest X-rays, enhancing image quality with **CLAHE** and employing **UNET and GradCAM** for semantic segmentation and interpretability. Achieved **99.95%** accuracy on the TBX11K dataset, improving diagnoses for over **2.4 million people** nationwide.

A Comparative Study of Detection of Tuberculosis using Machine Learning and Deep Learning *[Link]*

- Presented a comparative analysis paper encompassing **21+ research papers and 16+ transfer learning models** at IEEE organised 17th INDIACom-2023 10th International Conference on Advances in Remote Sensing and Medical Applications (ARSAMA) at MVSR Engineering College, Hyderabad, India.