Tarun Gangadhar

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Technical Skills

Languages: C/C++, Python, Javascript, SQL
Libraries: React, jQuery, PyTorch, TensorFlow
Frameworks: Node.js, Express.js

Education

University at Buffalo **Aug 2024 - Dec 2025**
Masters in Computer Science and Engineering *Buffalo, NY*

NIT Nagpur **Dec 2020 - May 2024**
B.Tech in Electrical and Electronics Engineering *Nagpur, India*

University of Oxford **Jun 2023 - Jul 2023**
Summer School(Onsite): AI and ML : Grade:A+ *Oxford, UK*

Projects

Interviewly - Live Video Chat Application | Live Site | GitHub

- Built a peer-to-peer WebRTC app using **Vanilla JavaScript** and **Node.js**, efficiently managing memory with an average RSS of 56.2 MB and avoiding memory quota breaches.
- Engineered signaling logic with **Socket.io**, achieving a 1 ms response time for 95% of requests.
- Optimized video quality with **Twilio STUN/TURN** servers, ensuring consistent connectivity with an average memory usage of 11%

Movie Recommendation System | Live Site | GitHub

- Created a content-based movie recommendation system using **Python**, **pandas**, and **scikit-learn**, analyzing over 5,000 movies and their metadata.
- Constructed a similarity model with CountVectorizer, extracting features from over 10 columns of metadata to improve recommendation precision.
- Integrated the **TMDB API** to dynamically fetch and display 5 movie posters for each set of recommendations, enhancing user engagement with visual movie previews.

Pathfinding Grid Explorer | Live Site | GitHub

- Developed a pathfinding visualization tool using **JavaScript** and **React**, handling a grid of 1,000 nodes.
- Devised algorithms like Dijkstra's and BFS, optimizing traversal to ensure efficient performance, with each node processed in under 0.5 seconds on average.

Experience

Maksym IT | *ML Engineer Intern* | Certificate **May 2023 - Jun 2023**

- Developed an optimized deep learning pipeline that trained a CNN on the CIFAR-10 dataset, processing 60,000 images; implemented strategies that resulted in a notable 10% improvement in classification performance.
- Adapted the Adam optimizer to optimize performance, leading to a 20% increase in classification speed while maintaining the improved accuracy.

Hitachi Solutions | *Data Engineer Intern* | Certificate **May 2022 - Aug 2022**

- Executed a comprehensive analysis of SQL Control Tables while managing the North American team's Canada initiatives; findings led to the integration of 50+ new data points, enhancing project insights.
- Streamlined Azure-based operations by implementing Logic Apps and Data Factory integration, resulting in more efficient data flows and automation. My efforts in this work earned me the AZ-900 certification and significantly improved operational performance.

Relevant Coursework

Data Structures, Object Oriented Programming, Data Base Management System, Calculus, Probability and Statistics, Machine Learning, Algorithm Analysis and Design, Computer Security,Data intensive Computing.

Leadership and Involvement

- Guided 14 junior students as a Student Mentor for the 2022 Batch in the EEE branch.
- Collaborated as a core member of the Google Developer Student Clubs (GDSC) 2023 Batch at VNIT, organizing and delivering tutorial classes and seminars for over 100 students on machine learning and software development.