Bhuvan Shah

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Education

University of Southern California — Los Angeles, CA
Master's of Science in Computer science — *May 2025*

Indus University — Ahmedabad, India
Bachelor's of Technology in Computer Science and Engineering — *July 2019 - May 2023*

Technical Skills

Languages: Python, SQL, Deep Learning, Machine Learning, Transformers, LSTM, JavaScript, Java, C#, React, Node.js, SpringBoot
Technology: Pytorch, SciKit, Git, Power BI, Container, Flask, BigQuery, Django, GCP, AWS S3, Azure, MySQL, Computer Vision, MongoDB, GCP, Hadoop, TerraForm, Kuburnetes, CI/CD pipelines & workflows

Experience

Graduate Teaching Assistant — May 2024 – Present
University of Southern California — *Los Angeles, CA*
- Mentored and guided 180+ students through complex coding challenges in C#, Python, and R, leading to a significant rise in coding proficiency, as evidenced by 90% of students passing final assessments on first attempt.
- Developed 6+ in-class coding activities, and facilitated the integration of analytics through Firebase and Unity Analytics

Data Scientist — December. 2022 – May 2023
Prompt Softech — *Ahmedabad, India*
- Impacted 12 traders by attaining 93% accuracy with a custom LSTM neural network with bifurcated architecture using stock prices and Twitter sentiment polarity
- Leveraged Hadoop to manage and process large datasets exceeding 50 GB, achieving a 35% reduction in data retrieval time
- Generated over $1200 in trading profits by optimizing trading strategies using Apache Spark for real-time data processing and model validation, complementing MQL4/MQL5 backtesting

Data Analyst Intern — June 2021 – July 2021
Tornado Computers — *Ahmedabad, India*
- Attained 92% accuracy in performance analysis by leveraging Apache Kafka for real-time data streaming and IoT integration, optimizing hardware performance and predicting system failures
- Reduced downtime and repair costs by 87% through implementing a neural network on TensorFlow for predictive maintenance, processing sensor data with Apache Airflow to automate data pipeline orchestration

Software Developer Intern — June 2020 – October. 2020
VueInternational — *Ahmedabad, India*
- Delivered a 15% increased business impact by designing and implementing interactive components with React, Tailwind CSS, Node.js, and Express.js, while incorporating Redis for efficient data caching and MongoDB for data retrieval
- Strengthened transaction security by 20% through Docker-containerized Stripe API integration for secure transactions

Projects

PII Detection and Masking | *PyTorch, DeBertaV3, Transformers, NLP, LLMs* — January 2024 – May 2024
- Led a team of 5 people and achieved a 99.56% F1 Score by developing a DeBERTaV3-based NER system with advanced architecture along with embedding layers and in-context learning to boost PII detection accuracy
- Expanded detection capabilities from 15 to 94 PII tags by leveraging Elasticsearch for scalable data storage and search. Integrated reinforcement learning with TensorFlow to optimize training, improving user data privacy

Me, Myself and Time | *Unity, C#, Python, Tableau, Git, APIs, Data Visualization* — January 2024 – May 2024
- Engineered a complex time-based algorithm in C# within Unity to simulate real-time data handling and improve system responsiveness, contributing to a 25% increase in user interaction and efficient performance scaling across platforms
- Incorporated Firebase for real-time analytics tracking and Tableau for advanced data visualizations, optimizing user workflows based on heatmap and data analysis, resulting in a 29% improvement in completion rates and a 37% decrease in game resets

Forecast Finesse | *MERN Stack, RESTful APIs, MongoDB, Azure, D3.js, Node.js, Express.js* — December 2022 – May 2023
- Architected a real-time financial dashboard using the MERN stack, merging live stock prices through multiple RESTful APIs, and visualizing data with D3.js for interactive, high-performance graphs, resulting in a 35% boost in user engagement
- Deployed proprietary algorithms for buy/sell/hold recommendations and sentiment analysis by fetching live data from Twitter and Google News APIs, utilizing an LSTM-CNN model to process sentiment data with 93% accuracy
- Utilized AWS S3 for secure, distributed storage of historical stock data, with retrieval across multi-region buckets. Leveraged Azure for cloud hosting, achieving 99.9% uptime while optimizing performance and reducing API response times by 40%.

Analysing Student Marks | *Machine Learning, Google Colab, Probability, Statistical Modeling* — January 2022 – April 2022
- Engineered a robust analytical model with dimensionality reduction techniques to identify 10 key performance indicators; this targeted approach resulted in an 80% improvement in student academic performance across diverse learning environments