Shreyas Srinivas Bikumalla

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WORK EXPERIENCE

*Graduate Teaching Assistant | **Python, C++, Docker, Flask, API integration, JavaScript, SQL***   Aug 2024 – May 2025
Michigan State University, East Lansing, MI

- Supported large-scale undergraduate courses in object-oriented programming, databases, and cloud-based application development.
- Mentored over 200 students on C++ programming, **SQL query** development, microservices architecture, Docker **containerization,** and **object-oriented design**, improving course project outcomes.
- Delivered technical support for database management systems, cloud deployment with **Flask and Docker**, and API integration, enhancing practical learning effectiveness.
- Led web application deployment workshops, reducing common student errors by 15% and accelerating project delivery timelines.

*Software Engineer (Research Volunteer) | **C++, CMake, Git, Paraview, NLP, GPU acceleration***   Dec 2024 – May 2025
Michigan State University, East Lansing, MI

- **Optimized C++ and CUDA** kernels in SimuCell3D for high-resolution tissue simulations, accelerating **runtimes by 80%** and maintaining version control on **GitHub** to support biomedical and healthcare research.
- Automated **data cleanup** and ParaView visualization of VTK meshes, streamlining analysis of cell-level metrics for studies on body fluid progression and tissue engineering by 40%.

*Data Analyst | **Python, R, Power BI, Tableau, Snowflake, Domo, MySQL, SAP, Git***   Jan 2023 – May 2023
Colgate Palmolive, Mumbai, India

- Collaborated with global business and product teams to design data analytics solutions supporting strategic initiatives.
- Worked closely with **data engineering** and finance teams to enhance reporting capabilities**, monitor KPI's**, improve dashboard functionalities, DAX calculations and automate financial data workflows across 20+ regions.
- Built interactive product performance dashboards analyzing 150+ SKUs using Tableau, Domo, and Power BI, driving regional business insights across 10 + markets
- Engineered multi-currency reporting solutions using MySQL, Excel, and SAP, streamlining financial visualization and **UI/UX.**
- Co-developed a scalable MySQL-to-**Snowflake production pipeline** and **end-to-end ETL** (ingestion, cleansing, transformation, load) that cut data-refresh cycles by 60 % via **Git-driven CI/CD**, boosted reliability and communications.

*Software Engineer | **Python, JavaScript, TypeScript, AWS, PostgreSQL, React, CSS***   Sept 2022 – Dec 2022
Innobytes, Pune, India

- Designed and developed a full-stack web platform focused on improving financial access for microentrepreneurs.
- Led backend integration, **API development**, and machine learning model enhancements, ensuring system scalability, efficiency, and predictive accuracy streamlining the process by 50%.
- Created responsive financial services platform with **JavaScript, React, CSS**, PostgreSQL, Python on **AWS (EC2, S3, RDS),** cutting entrepreneur-lender transaction times by 60%.
- Integrated **RESTful APIs** and optimized MongoDB queries within MERN framework, boosting backend processing speed by 20%.
- Upgraded ML-based approval model using scikit-learn, PyTorch, TensorFlow and Neural Model, increasing prediction accuracy by 30% through advanced feature engineering.

RESEARCH PROJECTS

Graph Convolutional Network for Node Classification | *Python, NumPy, TensorFlow, PyTorch, LLM, ML*   Jan 2024 – May 2024

- Implemented a PyTorch GCN Model that achieved 93.7% node classification accuracy, a 10% improvement over baseline
- Optimized performance with **scikit-learn** driven hyperparameter tuning, adjusting dropout, weight decay, and learning rates to reduce overfitting by 25% and boost validation accuracy by 10% across diverse datasets

Deep Learning for Speech Enhancements | *Python, MATLAB, ML, GenAI, CUDA, Git*   Jul 2024 – Dec 2024

- Led a deep learning-based speech enhancement model using Conv-TasNet to mitigate noise and reverberation, achieving PESQ improvements by 50% + with Python, TensorFlow, PyTorch, CUDA, Git.
- Evaluated the model on the large-scale dataset and visualized performance metrics with Matplotlib while monitoring KPI through dashboard visualization with Tableau, achieving robust real-time results with 30% increase in STOI.

IMDB genre Model Prediction | *Python, NLP, ML, GenAI, CUDA, GitHub*   Jan 2025 – May 2025

- Designed & benchmarked various ML models, including Logistic Regression, Decision Trees, SVM, CNN, LSTM achieving 70% accuracy with LSTM for genre classification using the Amazon IMDB dataset.
- Conducted testing using PCA, LDA techniques and performed comparative study using accuracy and metrices, revealing LDA boosted the accuracy by 3- 10 % across all models.

TECHNICAL SKILLS

- **Programming Languages:** Python, C++, C, SQL, JavaScript, Typescript, HTML, CSS, React, R, PostgreSQL, node.js
- **Data Visualization:** Excel (VLOOKUP, Pivot tables, Formulas), Power BI, Python (Matplotlib, Seaborn), Tableau
- **Development & Deployment Tools:** AWS, S3, lambda, EC2, Microsoft Azure, Docker, Git, Kubernetes, GitHub, Flask, Terraform
- **ML Libraries:** TensorFlow, Keras, PyTorch, scikit-learn, pandas, NumPy
- **Other Tools:** Agile, Waterfall, Jira, Jenkins, Go, Software development life cycle, SpringBoot, Linux

EDUCATION

College of Engineering, Michigan State University, East Lansing, MI   Aug 2023 – May 2025
Master of Science, Computer Science   GPA: 3.80
Vishwakarma institute of information technology, Pune, India   Aug 2019 – May 2023
Bachelor of Technology, Computer Science   GPA: 3.90

CERTIFICATIONS

• Google Data Analytics Professional	**Google**	May 2025
• Cisco Certified Network Associate (CCNA)	**Cisco**	Dec 2022