Yash Girishbhai Amethiya

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Education:

Master of Science in Computer Science May 2024
***Lakehead University**, Thunder Bay, Ontario, Canada*

Bachelor of Technology, Computer Engineering July 2018 - May 2022
***Dharmsinh Desai University**, Nadiad, Gujarat, India*

Experience:

Teaching Assistant January 2024 – Present
***Lakehead University**, Thunder Bay, ON*

- Assisted in organizing and conducting C programming labs for a diverse group of 45 undergraduate students, resulting in improved understanding and application of coding concepts.
- Led C++ programming labs for approximately 70 undergrad students, offering individualized support to clarify doubts and enhance their coding abilities.
- Graded and provided feedback on lab assignments and exams for a class of 45 students, ensuring accuracy and fairness in assessment.

Research & Project Intern December 2021 – April 2022
***Institute for Plasma Research**, Gandhinagar, Gujarat, India*

- Led a team of 4 to develop a project named “Deep Learning for Object Detection in a live video feed”.
- Collected and processed approximately 15,000 images through web scraping and utilized Labelimg for accurate labelling, contributing to the development of a comprehensive image dataset for research purposes.
- Achieved accuracies above 95% by Transfer learning from deep neural networks like MobileNet, ResNet, Inception, and VGG for image classification and did object detection using TensorFlow.
- Integrated 4 different models into a web application using Django Framework resulting in a secured platform for live object detection.

Projects:

Medical Image Captioning on Chest X-Rays *(Skills: Python, LSTM, CheXNET Model)*

- Extracted the information from Indiana University's dataset, consisting of almost 7500 images and 4000 reports.
- Organized the unbalanced data by performing data pre-processing tasks like up-sampling and down-sampling.
- Captured the semantic meaning and relationship between the words by using GloVe vectors with 300 dimensions.
- Fine-tuned the CheXNET Model for encoding and achieved around 90% accuracy and a loss of less than 0.01.

Currency Recognizer *(Skills: Research, Computer Vision, CONGAS, SIFT, Data Collection, Python)*

- Collaborated on a project to replicate, reproduce and enhance a research paper.
- Led the creation of a diverse dataset (300 images per US banknote) with varied conditions for robust model training and evaluation.
- Developed a fine-grained currency recognizer for the visually impaired using CONGAS, SIFT-based features and a pre-filtering classifier using MobileNet.

Research Paper:

Comparative Analysis of Breast Cancer Detection Using Machine Learning and Biosensors
Publication: **Elsevier**, Journal: **Intelligent Medicine** Published: October 2021
Authors: Yash Amethiya, Prince Pipariya, Shlok Patel, Manan Shah

Skills:

- Programming: C, C++, C#, Java, Python, JavaScript
- Technologies: Machine Learning, Data Analysis & Visualisation, Deep Learning
- Databases: SQL, MySQL, MongoDB, SQLite3
- Familiar: Angular, Node.js, Express.js, React.js, Next.js, D3.js, socket.io, JSP, AWS, GCP, OAuth
- Tools: Git, Postman, Labelme, Labelimg, Excel, Powerpoint presentation, Tableau

Volunteering:

- **Student Ambassador** for **C2U Expo**-2023 Community-College-University Exposition at **Lakehead University**.
- **International Orientation Volunteer** for **Lakehead University** for the Winter, Spring, Fall - 2023 and Winter - 2024.