

VIBHA BHAVIKATTI

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EDUCATION

San José State University, San Jose, California
Master of Science in Computer Science

August 2024 - Present

American University of Sharjah, Sharjah, UAE
Bachelor of Science in Computer Science, Minor in Data Science

September 2020 - June 2024

Dean's List Honoree: Fall 2020, Spring 2021, Fall 2021

Chancellor's List Honoree: Fall 2021

Relevant Coursework: Software Engineering, Data Structures and Algorithms, Operating Systems, Computer Networks, Machine Learning, Database Systems, Artificial Intelligence, Neural Networks and Deep Learning, Computer Vision, Cloud Computing, NLP, LLM

EXPERIENCE

Emirates Fast Food Company LLC – McDonald's UAE
Information Technology Intern

Sharjah, UAE

June 2023 - July 2023

- Collaborated with cross-disciplinary teams to analyze and resolve IT support tickets using the Ivanti service desk.
- Gained hands-on experience with automation tools and software testing methodologies.
- Assisted in database management and product pricing analysis.

American University of Sharjah
Teaching Assistant

Sharjah, UAE

January 2024 - May 2024

- Provided hands-on support to **30** students in Programming I lab sessions, assisting with coding exercises and troubleshooting under the guidance of Mr. Ali Reza Sajun.
- Assisted Dr. Rana Ahmed in grading the course, Programming I for **30** students.
- Assisted Dr. Rami Al Azrai in grading the course, Digital Systems for **41** students.

January 2023 – May 2023

September 2022 – December 2022

Google Developer Student Club - American University of Sharjah
Non-Technical Core Lead

Sharjah, UAE

June 2023 - July 2023

- Managed the club's social media presence across multiple platforms, utilizing strategic communication.
- Organized and coordinated events, ensuring successful execution and participation.

PROJECTS

Traffic Sign Detection and Localization (Capstone Project)

October 2023 - Present

- Collaborated with **iEngineering** to develop an advanced system for traffic sign detection and localization using YOLOv3 and YOLOv8.
- Utilized GPU-accelerated environments to achieve mAP@0.5 of **96.1%**.
- Implemented a user-friendly web application using Google Cloud Platform (GCP) to upload images, perform de-duplication and display geo-located traffic signs with metadata on a map.
- Performed Load, API, and User Acceptance Testing (UAT) to ensure accuracy, performance, and user satisfaction.

Machine Learning Based Classification for Real-Time Detection of IoT Network Attacks

January 2024 - May 2024

- Developed and deployed an IoT network attack detection system, achieving **97.58%** accuracy and **98.07%** F1-score.
- Evaluated models such as Decision Trees, Random Forest, Gradient Boosting, Naive Bayes and SVM on the RT-IoT 2022 dataset.
- Implemented data pre-processing (scaling, encoding, oversampling) and optimized ML pipelines for efficient IoT traffic analysis.

Underwater Image Enhancement with Deep Learning

January 2024 - May 2024

- Engineered a multi-tiered system combining DeepWaveNet and FUnIE-GANv2 for underwater image restoration.
- Utilized parallelism techniques to optimize large-scale generative AI model training on the GPU cluster.
- Achieved SSIM of **0.8394** and PSNR of **28.21**, surpassing benchmarks on the EUVP dataset.

Property Management System

January 2023 - May 2023

- Implemented a property management system to automate property management tasks, including appointment scheduling, rent collection, and maintenance requests, using detailed System Requirements Specifications (SRS).
- Designed and conducted comprehensive JUnit 5 White-Box Testing for specific use cases, achieving **100%** code coverage and validating key functionalities through both happy day and alternative scenarios.

COMPETITIONS

KIBO Robot Programming Competition
JAXA and NASA

April 2023 – October 2023

- Conducted extensive testing of Astrobee's ability to detect and resolve ammonia leaks using laser technology, running multiple simulations to ensure precision.
- Verified successful QR code scanning through rigorous simulation testing on the KIBO-RPC platform.
- Achieved **1st** place in the UAE and **6th** place globally in the final competition.

AI Week: Empowering Digital Health Education With AI - Machine Learning Hackathon
American University of Sharjah

March 2022

- Developed a CNN-based COVID-19 detector to detect COVID-19 affected patients X-rays, placing **4th** with a detection accuracy of **97.21%**.

SKILLS

- **Programming:** JavaScript, HTML, Java, C, C++, Python, SQL, R, MATLAB, GNU/Linux, Hive, CSS, Typescript, Ruby, Rust
- **Frameworks:** Keras, TensorFlow, PyTorch, JUnit, Flask, scikit-learn, CircleCI, Qt, Hadoop, REST APIs, AWS, Docker, Kubernetes
- **Tools:** Git, Microsoft Excel, PowerPoint, Word, Google Cloud Platform (GCP), CUDA, NVIDIA GPUs, Bash
- **Certifications:** Introduction to Cybersecurity - CISCO Networking Academy
- **Languages:** English, Kannada, Hindi