

SHAGUFTA ANJUM

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EDUCATION

University of Illinois at Urbana-Champaign

Illinois, USA | Jan 2024 - April 2025

Master of Computer Science

GPA: 4.0/4.0

Coursework: Applied Machine Learning, Cloud Computing Applications, Large Language Models, Distributed Computing, Data Mining, Security in Machine Learning

Mahindra University

India | July 2019 - May 2023

Bachelor of Technology, Computer Science Engineering

GPA: 9.3/10.0, Major GPA: 9.8/10.0

Honors: Dean's List [Fall 2021, Spring 2021, Fall 2022, Spring 2022, Fall 2023, Spring 2023]

Coursework: Machine Learning, Deep Learning, Big Data, Software Engineering, Database Management, Object-Oriented Programming, Computer Networks, Distributed Systems, Social Computing, Cryptography, Operating Systems, Enterprise Software Architecture, Linear Algebra, Probability & Statistics, Numerical Methods

SKILLS

- Programming Languages: Python, Javascript, Java, C, Scala, MATLAB
- Machine learning/Deep learning: Pytorch, TensorFlow, Keras, Scikit-learn, Numpy, Matplotlib, Pandas, OpenCV, Huggingface, Sagemaker, Bedrock
- Libraries/Frameworks: Docker, Kubernetes, RabbitMQ, AWS, GCP, Flask, FastAPI, React.js, Next.js, Angular, Apache Spark, Hadoop, Firebase
- Database: MongoDB, Firestore, MySQL, PostgreSQL

PROFESSIONAL EXPERIENCE

GlobalLogic

Charlotte, NC, USA

Software Engineer Intern

June 2024 – July 2024

- Developed a real-time collaboration feature in GlobalLogic's in-house learning platform GLX which allows multiple users to compete in gamified quizzes together
- Utilized Next.js, Google cloud functions, Firestore DB and web sockets to achieve real-time data synchronization, ensuring a seamless and scalable user experience

Dell Technologies

Bangalore, India

Machine Learning Engineer

July 2023 – Dec 2023

- Developed a computer vision model to identify text misalignments and label quality issues in product packaging using Python, Keras and TensorFlow
- Implemented real-time alerts and integrated the system with the existing manufacturing workflow and ERP system, enhancing the quality control process

Software Engineer Intern

Jan 2023 – June 2023

- Engineered an LSTM model to forecast backlogs in the Dell digital supply chain using historical supply chain data. Utilized Python, Keras and TensorFlow to construct and fine-tune the LSTM model, achieving an accuracy of 82% in backlog prediction

Cognida.ai

Hyderabad, India

Machine Learning Intern

Aug 2022 – Dec 2022

- Developed computer vision software using Python, OpenCV & Pytorch to track individual customer movement in supermarkets via real-time surveillance camera feed
- Applied deep-learning based object tracking, image inpainting and super-resolution techniques to overcome challenges of low-image quality and occlusion
- Delivered valuable insights into customer foot traffic patterns to enable strategic decision making for supermarket management

RESEARCH EXPERIENCE

University of Illinois Urbana-Champaign | Research Assistant

Domain-relevant Statistical Learning of Images in GANs

Jan 2024 – present

- Exploring the domain-specific statistical learning capabilities of Generative Adversarial Networks (GANs), particularly StyleGAN-2, using Python and Pytorch
- Aiming to produce visually realistic images while retaining statistical features inherent in real images by utilizing a custom designed loss function.

Improving Zero-shot Reranking using Large Language Models

Jan 2024 – present

- Using a combination of text summarization, keyword extraction and topic modelling techniques to improve the document ranking capabilities of open-source large language models without the need for training data or task specific fine-tuning

Mahindra University | Research Assistant

Solving Differential Equations using Physics Informed Neural Networks

Jan 2023 – Oct 2023

- Studied the use physics informed neural networks as a fast computational approach to find numerical solutions for aerodynamic phenomena
- Developed the deep learning model in Python and Pytorch, and designed a loss function that uses differential equation residues to learn the system's solution

VisionAid – Assisted Living for the Elderly using Computer Vision

Feb 2022 – Dec 2022

- Designed a computer vision based solution to assist elderly people suffering from vision loss to find items in indoor environments using a wall-mounted camera, object detection software and a voice assistant enabled mobile application, and used human pose estimation models to integrate fall and inactivity detection
- Utilized the YOLOv4 model coupled with super resolution imaging developed in Python, Tensorflow and Keras to achieve an accuracy of 86%

AWARDS

Smart India Hackathon – Winner

Awarded by Government of India – 1st place out of 10,000 teams

August 2022

- Developed a web application for the department of cultural affairs using ReactJS, Flask and MongoDB utilizing augmented reality (AR) technology for users to virtually try on LIDAR scanned 3-D models of Indian turbans and other traditional headgear