

Summary

GHC'24 | Computer Engineering Masters graduate student with 2+ years of work experience in developing solutions for e-commerce applications looking for software engineering roles with proven competence in developing scalable deep learning models trainable on GPUs. In-depth knowledge of full-stack engineering to build interactive and user-centered software frameworks to scale. Recipient of **Scholarship Award (2022-23)** for tuition assistance offered by **Purdue University Graduate Program**.

Experience

Technical Co-Advisor, EPICS Program, Purdue University, WL

Sep 2024 - Present

- Providing mentorship and co-advising students for four EPICS projects – EdTech, SCAN, IMS and ISD.
- Assisting other co-advisors or instructors for four the projects and monitoring students' progress, evaluating projects developed by the students, suggesting options to address obstacles faced by the students, and promoting best practices, safety, and sustainability in the field of software development and deployment.
- Developing, delivering skill and training sessions throughout the semester.
- Providing constructive feedback before and after design review events

Software Development Engineer (SDE), RedBus Golbibo Pvt. Ltd.

2017 - 2018

- Played a pivotal role as a **full stack web developer** for the Business to Customer web team, driving website development, product features development and maintenance efforts for redBus website.
- Delivered a remarkable **10% improvement** in the conversion ratio **Book Again - Book Return - Resume Booking Flow** during ticket reservation.
- Innovated novel product features - seamlessly deployed code to the production environment - proactively resolving production bugs - enhancing significant **improvement in web functionality and speed**.
- Key contributor to the successful revamp of the redBus website, achieving significantly faster rendering speeds through code migration using the **React framework** and implementing 'dynamic filters' for the booking platform.
- Gained experience in **HTML5, CSS3, React.js, MongoDB, C#, .Net, SQL, Microsoft development tools, Windows operating system, Jira, Git, and Jenkins**.

Intern, National Informatics Centre - Govt. of India

Summer 2016

- Assisted in the development of a **C++ module in QT framework** that seamlessly linked the System for Attumanal Neutral Distribution (SAND) project with a Point of Sale (POS) device, enabling efficient tracking of vehicles entering mining areas.
- Demonstrated expertise in system design, business process re-engineering, and technical documentation, contributing to the project's overall success.
- The project helped provide a groundbreaking solution to combat illegal sand mining from river beds, resulting in a remarkable **70% reduction** in such activities across the entire state of Kerala.

Intern, HLL Biotech Limited

May-June 2016

- Gained exposure in various departments of the company, including, HR, information technology, QA & QC, and IVC site visiting. Also gained exposure in setting up computer network connections for the new factory setup.

Publication

S.S. Menon, Dr. El.M.Sharkawy. Lidar based 3D object detection using Yolov8 and Euler Region Proposal Network- Under-Preparation,2024.

Projects

Applying Vision Transformers for Image Synthesis and Inpainting

- This project aims to leverage Vision Transformers for generative tasks such as image synthesis and inpainting.
- By utilizing models like DALL-E and VQ-VAE-2, we generated high-quality images from random noise or fill in missing parts of an image.
- Evaluation metrics such as Inception Score and Frechet Inception Distance was used.

Key Frame-Based Video Summarization

- Led a team of 4 members to develop an algorithm focused on reducing the volume of any video by creating its summary. Duplicate frame removal and stroboscopic imaging were the main techniques used in the work.
- Machine learning (OpenCV) model was used to detect car seat belts and helmets to check for traffic rule violations.

SUDOKU- Solver

- An interactive sudoku game web application, with user interface.
- Exploring the back tracking algorithm with the interactive game.
- Self-solving feature and timer is an additional feature.

Smart Blind Cane using Sensor Fusion

- Demonstrated exceptional leadership skills by overseeing a team of 3 individuals in the successful development of an obstacle detection circuit on an FRDM-K64 board. The circuit utilized ultrasonic sensors, a buzzer, and custom programming to achieve outstanding functionality.
- The sensors were custom-programmed to activate at different frequencies based on the distance from the obstacle.
- The project resulted in a highly efficient obstacle detection system, showcasing the team's technical prowess and commitment to excellence.

Voice Command Controlled Automatic Door

- Designed and implemented a highly innovative circuit on an FRDM-K64 board to create a groundbreaking voice-controlled automatic door prototype, leveraging servo motors for seamless operation.
- Successfully integrated a Bluetooth module to establish a seamless connection with mobile devices, enabling voice commands for the automated door system.

Education

Purdue School of Engineering Technology, Purdue University

MS in Computer Engineering

Government Model Engineering College

B.Tech in Computer Science and Engineering

Indianapolis-IN, USA

June 2024

Kerala, India

May 2017

Skills

- **Programming Languages:** C++/C, C#, JavaScript, Python, React.js, HTML5, CSS3, MongoDB, Google Analytics, CI/CD, Akamai, Jenkins, Jira, GIT, OWASP, REST APIs, Agile.
- PyTorch, OpenCV, Tensorflow, Vision Transformers, DALL-E, VQ-VAE-2.