

Alekhya Mellam

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EDUCATION:

Master of Science in Computer Science, *University of North Carolina at Charlotte*. **GPA: 4/4** **01/2023-05/2024**
Bachelor of Technology in Electrical Engineering, *Indian Institute of Technology*. **07/2018-05/2022**

EXPERIENCE:

Graduate Assistantship - UNC Charlotte, NC **07/2023-05/2024**

- Leveraged proficiency in MySQL and Oracle to streamline student learning experiences, resulting in a 40% increase in successful database management project completions and significantly improved overall student satisfaction.
- Led and mentored students during hands-on database lab sessions, delivering and resolving technical obstacles, resulting in a 15% improvement in student participation and class discussion.
- Collaborated with the professor to develop course materials, including lecture slides, assignments, and exams, ensuring alignment with course objectives, and maximizing student comprehension and achievement.
- Demonstrated strong communication and teamwork skills in coordinating with professors and peers to optimize course content and delivery methods.

Software Engineer - Celstream Technologies, India **01/2022-12/2022**

- Designing and developing frontend user interfaces using AngularJS, HTML, CSS, and JavaScript, which significantly improved the overall UI efficiency by 20%, leading to enhanced user experience.
- Developed and optimized server-side logic using Servlets, JSP and Enterprise JavaBeans (EJBs), focusing on improving the performance of the middle-tier components, which resulted in a 15% increase in processing speed and system responsive design.
- Led the enhancement of Spring MVC and RESTful Web Services, focusing on exposing and consuming third-party services, which increased service reliability by 25%.
- Enhanced overall code quality and maintainability by developing comprehensive JUnit test cases and implementing Test-Driven Development (TDD) practices, which improved system stability.

Software Intern – Digital Ignite, India **05/2021-08/2021**

- Developed and maintained a web application for Rejected Application Processing, enhancing system efficiency by 20% using Java, Spring and AngularJS.
- Implemented J2EE design patterns, improved transaction management through multi-thread and utilized Java 8 features, resulting in a 15% performance boost.
- Designed RESTful web services with Spring and JAX-RS, and integrated database components using PL/SQL, reducing data processing time by 25%.
- Led the development of reusable Angular components, increasing code reusability by 30% and improving front-end performance with TypeScript.
- Streamlined CI/CD processes with Jenkins, Maven, and Git, reducing deployment time by 40% and ensuring continuous integration with daily builds.

Summer Intern - C-DAC, India **05/2020-08/2020**

Explored Optimization Methods for Traffic Engineering

- Analyzed network data using NumPy, matplotlib, and NetworkX libraries, achieving a significant 30% reduction in congestion, thereby enhancing communication efficiency.
- Spearheaded the investigation into optimization techniques in telecommunication, employing machine learning algorithms to enhance network performance and improve the overall customer experience.
- Applied advanced graph theory concepts to optimize network connectivity end-to-end, resulting in a notable 25% reduction in data transfer time and substantial improvements in system performance.
- Utilized machine learning models to identify patterns and predict network behavior, enabling proactive optimization measures and reducing potential downtime.

PROJECTS:

Project 1 - Grocery Delivery App

- Developed and launched a mobile application facilitating seamless grocery shopping, including store discovery, item selection, and real-time delivery tracking.
- Utilized front-end technologies such as NodeJS and ReactJS to ensure a user-friendly interface and smooth navigation experience.
- Employed backend technologies for robust functionality, ensuring reliable order processing and delivery management.
- Implemented features for real-time order updates, enhancing user convenience and satisfaction.
- Achieved successful deployment, creating a scalable solution to accommodate future growth and expansion.

Project 2 - Gender Detection from Image

- Developed a Gender Recognition system using a dataset comprising 1073 images of men and 1100 images of women, employing Python for implementation.
- Conducted comprehensive data preprocessing, including the conversion of images into 3D arrays for model compatibility, and applied data augmentation techniques to enrich the dataset and mitigate overfitting.
- Implemented a VGG16-inspired Convolutional Neural Network (CNN) architecture to automatically extract contextual features from images for gender classification.
- Achieved outstanding performance with a validation set accuracy of nearly 97% after training the model for 30 epochs, demonstrating the effectiveness of the proposed approach.
- Contributed to advancing gender recognition technology by leveraging state-of-the-art deep learning techniques and methodologies.

Project 3 – Sport Event Registration System

- Developed a website using Express.js and a NoSQL database, resulting in a 25% increase in user engagement.
- Managed registrations for 500+ sports events across the university, streamlining event registration processes.
- Empowered designated users (players and owners) to read, write, and analyze data, leading to a 30% improvement in user satisfaction.
- Implemented data security measures to protect user information and ensure compliance with privacy regulations.
- Conducted user feedback sessions and iterative testing to continuously improve website functionality and usability.

TECHNICAL SKILLS:

- **Programming Languages:** C, C++, Java, JavaScript, Python.
- **Databases:** MySQL, NoSQL, MongoDB, PostgreSQL.
- **Frameworks/Tools:** HTML5, CSS, ReactJS, Angular, Typescript, NodeJS, Express.js, Spring, Spring Boot, AWS, Azure, Jenkins, Maven, Figma, Docker, Kubernetes, GitHub, Cypress, Jest, JUnit, Pandas, PySpark, Pytorch, Tensorflow, Scikit-learn, NumPy, NetworkX, OpenCV, Keras, Excel, Outlook, MATLAB.
- **Operating Systems:** Linux, Unix, Mac OS, Windows.
- **Area of Expertise:** Database Management System, Object-Oriented Programming, Data Structures and Algorithms, SDLC, Computer Architecture, Data Science, Networking, System integration, Machine Learning, Web development, Cloud Computing, DevOps, Agile Methodology, Communication skills.

CERTIFICATIONS:

- **AWS Academy Data Engineering** Issued by Amazon Web Services Training and Certification
- **Microsoft Azure AI Fundamentals** Issued by Microsoft
- **The Complete JavaScript Course 2024** - Udemy Certification
- **Full Stack Java developer - Java + JSP + Spring Restful + JS** - Udemy Certification.
- **C++ Programming** -Beginner to Advance- Deep Dive in C++ - Udemy Certification