

Summary

Highly skilled Computer Science graduate boasting hands-on experience in software engineering and data science internships. Excelled in utilizing C, Python, Java, .NET, and other programming frameworks, managing databases, and applying Agile methodologies. Achieved significant advancements in traffic management systems, cloud data security, and process automation. Seeking to apply technical expertise and problem-solving abilities to challenging new projects.

Education

George Mason University, U.S.A - MS in Computer Science | GPA: 3.93 / 4.0 | August 2021 - May 2023
Coursework: Analysis of Algorithms, Database Systems, embedded systems, Software Engineering for World Wide Web
Anna University, India - B.E in Computer Science | GPA: 7.97 / 10.0

Technical Skills

Programming Languages/ Frameworks: C, Python, C#, C++, Java, .NET, Python, HTML5, CSS, JavaScript, Bootstrap,Web API
Databases: MS SQL Server (relational databases)
Development Tools: VS Code, Visual Studio, Jupyter Notebook, Colab, SQL Server Management Studio
Project Management Tools: Microsoft Team Foundation Server, Azure DevOps, Docker, Kubernetes
Project Delivery Methodology: Scrum, Kanban, Agile

Work Experience

Software Engineering Intern | AtWork Systems, U.S.A | September 2022 - December 2022
Integrated Solution Project (Java, JAX-RS, Angular 8, REST, Web API, Typescript, Git, GitHub)

- Spearheaded the development of a standardized wrapper for the existing P-calendar library, leading to organized, maintainable code and minimized redundancy.
- Executed the enhancement of delete functionality for a database-driven application, creating a reliable process for constructing entity references, ensuring safe and error-free deletion of related objects.
- Leveraged the robustness and reliability of Java for backend development, ensuring stability and efficacy of complex back-office processes, contributing to a reliable and scalable system.
- Ensured high system performance and scalability capable of handling extensive user loads, providing responsive user experiences, through Java’s performance capabilities and RESTful web services built using JAX-RS.
- Implemented a RESTful architecture using Web API, defining endpoints for resource operations, enabling seamless interaction with the user interface built using Angular 8.
- Utilized Git for effective code management and versioning, preserving a project history and providing a recovery path for unwanted modifications.
- Enhanced collaboration and code management processes using GitHub’s features such as pull requests, issue tracking, wikis, and project boards, fostering efficient team collaboration and project delivery.

Data Science Intern | Cancer Moonshot, India | January 2021 - July 2021
Image Analysis of Tumour Project (Python, Colab, Monai Framework, JSON)

- Devised Convolutional Neural Networks (CNN) models using Python and the Monai framework, enabling accurate prediction of tumor regions in MRI scans, significantly reducing doctors’ analysis time.
- Tackled challenges associated with creating UX, UI of heatmaps for MRI scans utilizing Monai, resulting in enhanced visual perception of tumor regions.
- Capitalized on the deep learning capabilities of Python and the Monai framework, designing and training robust models for effective tumor detection, enhancing the project’s accuracy.

Senior Engineer | Aspire Systems, India | June 2017 - October 2020
Bill Pay-Online Bill Payment System Project (C#, SQL Server, Jquery, MVC, ASP.NET, VB.net, AJAX, SOAP Web Services, ADO.NET, WCF)

- Collaborated with the development team to resolve challenges related to consumer and business payments, aiding in the creation of trusted payment experiences and products for B2B and C2C customers.
- Redesigned the UI and UX of Recurring Payments in compliance with WCAG Standards, improving user ability to schedule payments smoothly, resulting in a 15 percent increase in payment volume.
- Engineered a console application to automate data collection from VSTS API, exporting data into an Excel sheet, reducing manual work by 90 percent.
- Refined SQL Server database structure to facilitate efficient storage and extraction of payment information, promoting faster data access and improved system responsiveness.
- Leveraged C#, ASP.NET MVC, and jQuery to design an architecture capable of handling concurrent requests, processing payments efficiently, and providing a responsive user interface.
- Utilized ADO.NET’s robust transaction management capabilities to execute multiple database operations as part of a single transaction, ensuring accuracy and reliability of financial transactions.

Projects

Web Application Automation using CI/CD Pipeline

- Led the automation of the build and deployment process using Jenkins and Maven, successfully eliminating 80% of manual work by configuring Jenkins jobs to define the build and deployment steps, enhancing the speed and efficiency of the development cycle.
- Spearheaded the creation and maintenance of Docker containers for both the front-end web application and the back-end application, encapsulating the applications along with their dependencies, resulting in consistent and reliable execution across different environments and facilitating greater portability.
- Expertly utilized Kubernetes for the deployment and management of both front-end and back-end applications, providing fault tolerance through automatic restarts of failed containers and redistribution of workload, improving the scalability and reliability of the project significantly.

Multi Keyword Search on Encrypted Cloud Data using Asp.net, SQL Server

- Skillfully developed security software for encrypted cloud data, leveraging the powerful features of Asp.net and SQL Server to ensure robust data protection. Successfully improved reliability and crafted an engaging UI design using the MVC pattern, resulting in an enhanced user experience and robust data security.
- Effectively handled end-to-end backend functionalities, showcasing strong technical skills in server-side development and a deep understanding of secure data management.
- Utilized Asp.net and SQL Server to enhance the security of sensitive data housed in the cloud. This strategic initiative promoted data privacy and bolstered the overall reliability and trustworthiness of cloud storage solutions.

Multithreaded Traffic Light Control System

- Leveraged C and embedded system principles to design and implement a multithreaded traffic light control system, equipped with manual override functionalities via start and stop push buttons. This system resulted in a dynamic and responsive traffic management solution that efficiently utilized system resources and maximized throughput.
- Implemented advanced thread prioritization and rate monotonic scheduling to ensure predictable and timely execution of tasks across multiple threads. Priorities were skillfully assigned based on the periodic execution requirements, enhancing system performance and bolstering overall reliability.
- Successfully improved traffic congestion and response times by allowing parallel execution of different traffic signal sets, a testament to the effective use of multithreading. This approach increased fault-tolerance, with isolated issues not affecting the broader system, thereby boosting overall system dependability.
- Introduced a collaborative switching mechanism for synchronized and consistent traffic signal states, ensuring smooth traffic flow and preventing potential collisions. This proactive measure further strengthened system reliability and safety, highlighting a strategic approach to traffic management system design.