SIDHARTH MENON

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EDUCATION

University of South Florida **August 2020 - December 2024**
Bachelor's, Computer Science *GPA: 3.55*

- Software Engineering, Data Structures, Program Design, Analysis of Algorithms, Operating Systems, Database Design, Capture the Flag, Cryptography Theory and Practice, Secure Coding

SKILLS

Platforms/Operating Systems: Linux/Unix, Windows 10/11, macOS, Android
Languages: C/C++, C#, Java, Python, SQL, HTML/CSS, JavaScript, TypeScript, JSON, Ruby on Rails, CUDA, Shell, CMD
Technologies: AWS, Git, Visual Studio, React.js, Node.js, MySQL, Informatica, Jest, Postgres, Agile, Office 365

CERTIFICATIONS

AWS Certified Developer - Associate — Expected: December 2024
AWS Certified Cloud Practitioner — April 2024
Adobe Certified Professional in Visual Design — October 2020

PROJECTS

Professional Portfolio Website *September 2024 - Present*

- Building a professional online webpage using React and TypeScript, with a strong emphasis on design aesthetics and responsive UI. The project highlights technical skills through clean, component-based architecture and leverages Docker to ensure a consistent, portable development environment across platforms.
- Deployed via AWS Amplify with integrated S3 buckets for efficient asset storage, following IAM access management best practices for security.
- Implementing automated testing using Vitest to maintain high code quality and a seamless CI/CD workflow, catching potential issues early and enhancing performance, ensuring a polished user experience.

Wearable Active Tracker, CARTT USF *August 2024 - December 2024*

- Developed a wireless optical motion tracking system for VR environments, utilizing computer vision to capture precise spatial and orientational data (6DoF) for multiple objects, enabling real-world objects' movements to be tracked within a VR environment on a Meta Quest 2 headset.
- Modeled the application in Unity with a depth-sensing camera tracking IR tags, and configured a Raspberry Pi 4 to act as a WebSocket server to relay data to Unity's client, with technical documentation detailing setup, architecture, and integration steps for easy maintenance and future development.

ParkingBuddy, USF *February 2024 - April 2024*

- Created a Ruby web page using the Google Maps API to display a map of the university and parking lots, showing available and taken spots, streamlining experiences for students, faculty, and visitors.
- Adopted Agile methodologies and operated as a mock Scrum team with 4 members, holding 2 week sprints, leveraging GitHub for collaborative development, task management, testing, and version control to ensure efficient communication and project workflow

Parallel Systems Optimization Project, USF *September 2023 - October 2023*

- Leveraged CUDA programming and NVIDIA GPU architecture to optimize spatial distance computation, reducing runtime from 43.38 ms to 19 ms and achieving a 207% performance improvement.
- Utilized shared memory, parallel reduction algorithms, and thread synchronization techniques to minimize memory latency and maximize computational throughput in parallel processing tasks.

Database Design Term Project, USF *March 2023 - April 2023*

- Constructed a full-stack web application that mimicked an online video game store, with a dynamically updated store page containing hundreds of games and functionality that allowed visitors to create a cart and checkout.
- Incorporated and integrated a diverse array of tools such as React, MySQL, Sass, Redux, and HTML suite to create a seamless, responsive user interface and database, along with an encrypted user account management and privileged access system.