Muhammed Samal Thadathil

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Work Experience

Qburst Technologies   **Aug 2023 – Dec 2023**
Software Engineer   *Kerala, India*

- Leveraged Gitlab CI/CD pipelines for continuous integration and delivery, ensuring seamless updates and improvements to the Python Django REST framework, resulting in a 30% increase in application efficiency.
- Managed a microservices architecture on cloud infrastructure, collaborating with cross-functional teams to integrate third-party APIs into the application, improving the functionality and expanding the user base by 25%.
- Employed RabbitMQ for handling asynchronous tasks and managing message queues, and utilized Redis for caching to optimize database queries, thereby increasing application performance by 40% and system scalability.

Cinetokens   **Aug 2022 – Jan 2023**
Full Stack Engineer   *Remote*

- Developed an AWS file upload system, enhancing accessibility to critical files for admins. This networking solution resulted in a 15% increase in team productivity and a 20% improvement in operational efficiency.
- Created responsive user interfaces using ReactJS and TailwindCSS, strategically utilising these tools to drive a remarkable 33% spike in user engagement and a substantial 45% increase in web application usage metrics.
- Built a scalable REST API backend using NodeJs and ExpressJs for mobile/web apps, achieving an impressive uptime of 93.7%. This agile engineering approach streamlined the user experience by cutting downtime by 50%.

Hackathons

IBM CIC Hackathon: Innovation Squad Member   **University of Leicester**
Project: WiseWallet   *Live*

- Collaborated with a team of developers and designers to create a functional prototype in 48 hours under the mentorship of senior IBM engineers, acquired top five positions out of 20 groups competed.
- Developed and fine-tuned an AI model for analysis and feedback generation from shopping receipts.
- Built a user-friendly web application using React.Js to submit receipts and receive feedback via chatbot.
- Optimised chatbot response generation using Firebase Cloud Firestore and Firestore Security Rules, improving accuracy by 15% and applied OCR technology for extracting and parsing text from the receipts.

Projects

Realtime Helmet Detector *(Pandas, Numpy, Scikit-Learn, Tensorflow and OpenCV)*   **Source Code**

- Designed and trained a robust and lightweight CNN model on top of MobileNetV2 using **TensorFlow.**
- Coded a Python script using Numpy, Pandas and Scikit-Learn to perform data cleaning and preprocessing.
- Enabled the development of a custom machine learning model with 20% faster training time and accurate performance despite image complexities.

Penply *(React.Js, Next.Js, TailwindCSS, Node.Js, Express.Js, AWS(RDS, DynamoDB, Lambda, EC2, S3))*   **Live**

- Engineered a collaborative virtual study room application using Next.Js, TailwindCSS, Node.Js, and Express.Js, enabling students to take notes, chat, share files, and manage events in real-time.
- Architected a microservice infrastructure with three distinct backend applications, each handling different system components, thereby boosting the system's scalability and maintainability.
- Deployed the complete system on AWS using services like EC2, S3, Lambda, DynamoDB, and RDS, and managed version control using Git and GitHub, ensuring efficient development workflow and robust cloud-based infrastructure.

Education

University of Leicester   **Jan 2024 - May 2025**
MSc in Advanced Computer Science

APJ Abdul Kalam Technological University   **Jun 2019 - Jun 2023**
B.Tech in Computer Science and Engineering

Technical Skills

Languages: Python, C, Java, JavaScript, TypeScript
Frontend/Backend: React.Js, Next.Js, TailwindCSS, HTML, CSS, Django, Node.js, Express.js
Libraries/Frameworks: Pandas, Numpy, Matplotlib, Scikit-Learn, Tensorflow, OpenCV
Databases & Other: AWS, PostgreSQL, MongoDB, Docker, Socket.IO, Redis, Prisma, Git