Vasant Kumar Mogia

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EDUCATION

MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE   Gwalior, MP
Bachelor of Technology   Sept 2023 – Present
Major in Information Technology
Relevant Coursework: Software Engineering; Operating Systems; Algorithms; Computer Networks; DBMS

DELHI PUBLIC SCHOOL VIJAIPUR   Guna, MP
Applied Sciences & Computer Applications   June 2021 – May 2023

PROJECTS

TECHNEWS API   Link
JavaScript, Express, NodeJS, PostgreSQL
- Delivered real-time tech news via a serverless RESTful API, handling 100+ daily requests on a free-tier server.
- Enabled developer adoption through RapidAPI integration and Insomnia testing by validating endpoints and achieving up to 80% uptime for all endpoints.
- Managed 100+ articles with PostgreSQL for efficient, real-time data retrieval under resource constraints.

AWS SERVERLESS EMAIL MARKETING   Link
AWS (Lambda, SES, S3, EventBridge, IAM), Python, HTML/CSS
- Developed a serverless email marketing with AWS Lambda, SES, S3, EventBridge, and IAM, reducing manual setup by 80%.
- Streamlined template and contact merging in Lambda functions, slashing email prep time by 90%—from hours to minutes.
- Automated campaign scheduling using EventBridge to ensure timely email delivery, while enforcing least-privilege access with IAM for enhanced security and controlled resource permissions.

WATCHERX   Link
JavaScript/TypeScript, Express, NodeJS, GCP, Docker, Firebase, HTML/CSS
- Enabled authenticated uploads by utilizing Firebase and generating Cloud Functions–issued signed URLs, securing 100% of incoming raw video uploads in Cloud Storage.
- Orchestrated a Pub/Sub–triggered Cloud Run FFmpeg pipeline to transcode videos to 360p in /processed-videos.
- Logged processing status and metadata in Firestore, allowing users to track and directly access processed videos.

AEGISCC   Link
C++, G++, Linux
- Engineered a x86-64 JIT compiler in C++ that emits and executes a machine-code sequence at runtime via mmap, enabling direct calling of a global function.
- Optimized runtime calls and memory pages access, cutting execution overhead by 30%.
- Showcased up to 5 runtime examples of machine code injection and execution via C++ function calls.

TECHNICAL SKILLS

Languages: Python, C++, JavaScript/TypeScript, SQL, HTML/CSS
Technologies: Git, Docker, AWS, Firebase, GCP, PostgreSQL, NodeJS, Express, Hugo, Linux

EXTRACURRICULAR

ASSOCIATION FOR COMPUTING MACHINERY   Gwalior, MP
Technical Team Member   Oct 2024 – Present
- Designed and delivered hands-on technical workshops, authoring sample code and step-by-step tutorials for 50+ attendees.
- Led prototyping and development of group projects, conducting code reviews and docs.

CERTIFICATION   Feb 2025
Datacom Software Development Job Simulation – Forage
- Completed a simulation focused on how the software development team at Datacom approaches their work.
- Reviewed a web application and planned for future improvements.
- Identified the root cause of bugs and implemented a fix to improve the application.