

# Vasant Kumar Mogia

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## EDUCATION

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### MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE

Bachelor of Technology

Major in Information Technology

Relevant Coursework: Software Engineering; Operating Systems; Algorithms; Computer Networks; DBMS

Gwalior, MP  
Sept 2023 - Present

### DELHI PUBLIC SCHOOL VIJAIPUR

Applied Sciences & Computer Applications

Guna, MP  
June 2021 - May 2023

## PROJECTS

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### 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.
- Achieved 80% uptime for all API endpoints through rigorous Insomnia testing and continuous monitoring, making the API the most reliable news source on the platform.
- 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 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 upto 5 runtime examples of machine code injection and execution via C++ function calls.

## TECHNICAL SKILLS

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**Languages:** Python, C++, JavaScript/TypeScript, SQL, HTML/CSS

**Technologies:** Git, Docker, AWS, Firebase, GCP, PostgreSQL, NodeJS, Express, Hugo, Linux

## EXTRACURRICULAR

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### ASSOCIATION FOR COMPUTING MACHINERY

Technical Team Member

Gwalior, MP  
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.