AASHISH KUMAR

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Education

Indian Institute of Technology Kharagpur   **Jun 2018 – May 2023**
Dual Degree (B.Tech & M.Tech), CGPA: 8.52/10   *Kharagpur*

Technical Skills

Programming Languages: C++, Java, Golang, Python, JavaScript, TypeScript
Markup/Query Languages: HTML5, CSS3, T-SQL, pgSQL
Frameworks & ORMs: Spring Boot, FastAPI, Gin, Express.js, LangGraph, jOOQ, Mongoose, Prisma, Gorm
Databases: Redis, MongoDB, DynamoDB, Elasticsearch, SQLite, SQL Server, PostgreSQL, pgvector
Deployment: Docker, GitHub Actions, Azure DevOps Build & Release Pipelines, Deployment Groups, IIS, Nginx, Last9
Cloud: AWS S3, EC2, ECS, ELB, Lambda, RDS, ElastiCache, CloudWatch, SNS, SQS, SES, IAM, CloudFront, Route53

Experience

Flash AI   **Dec 2024 - Present**
Software Development Engineer   *Bangalore*
- Redesigned **IMAP** service, decoupling mail fetch events, auto-retry, configurable domains, improved wait times by **76%**
- Overhauled email compose flow, reducing errors by **25%**, and migrated the mail list API to **ES**, cutting latency by **60%**
- Enhanced observability incorporating **OTEL** across **28** services, transitioning from CW to Last9, reducing costs by **30%**
- Migrated mime data from RDS to S3 with **Lifecycle** policy, reducing storage costs by **55%**, and **halved** S3 write costs
- Re-engineered email table with **nested partitions**, deleted **2B** promotional mails from S3/DB, resulting **66%** cost save
- Optimized infra costs by right-sizing **ECS/RDS** cluster, **S3 Glacier** archival, **Subnet** restructuring, yielding **38%** cut

RootQuotient   **Jun 2023 - Dec 2024**
Software Development Engineer   *Chennai*
- Created APIs to migrate Cancer Registry System from **PL/SQL SPs** & **Triggers** to **TS**, with **SQL Server** & **Prisma**
- Ported .NET Web Services using **RPC** client and **SOAP** APIs with WSDL in Node.js, consuming **DLLs** through **FFI**
- Scheduled **cron** job consuming HL7 documents with locks and **configurable** interval, **scaled** to cluster threads via **IPC**
- Wrote **unit** & **integration** test suites with a coverage of **85%**, optimized on-premise infra using Grafana's **K6** perf tests
- Configured build & release **pipelines**, with coverage reporter, static code analyzer, deploying to **IIS** with **Azure** agents

Amazon   **May 2022 - Jul 2022**
Software Development Engineer Intern   *Bangalore*
- Designed **UUID** for CGS Dashboard versioning and improved cadence from **weekly to every second**, in the EMR job
- Revamped Audit Log **DynamoDB** to store metadata for the dashboard, tracking published versions in CGS Version UI
- Reengineered the **CSV View** to render the dashboard directly from **S3**, **eliminating the cost** of maintaining the DDB
- Devised **CSV diff** algorithm to compare dashboard versions by primary index, providing list of changes to stakeholders

Projects

Jira 2.0   **Apr 2024 - Jun 2024**
Autonomous Project Management Suite   *View System Design*
- Crafted a **Lambda**, which triggers upon **FRD** upload to **S3**, and creates user stories using **Llama3** running in an **EC2**
- Facilitated **Event Bridge** to consume Slack messages, leveraged LLMs through **Flask** APIs to compile updates on tasks
- Employed **SES** to dispatch task approvals, thereupon invoking **issue tracker's API** to reflect these changes in backlog

DeployX   **Jan 2024 - Mar 2024**
UI Deployment Automation   *Design Reference*
- Built an API server with **RDS**, queuing build jobs and streaming logs to **Kafka** for **ClickHouse**, accessible via polling
- Provisioned an **ECS** cluster which runs **ECR** images in **Fargate**, to process the build jobs and dump the artifacts to **S3**
- Developed a **reverse proxy** for UI builds, streaming assets from S3, **mapping subdomain** to S3 key with RDS query

Aranpani   **Nov 2023 - Dec 2023**
Fundraiser Management System   *OpenAPI Docs*
- Modeled project, donor & payment APIs with **JWT** auth, **Joi** validation, opting S3 **presigned URL** for media uploads
- Penned **Unit** and **Acceptance** test suites, maintaining a code coverage of above **90%**, leveraging **Jest** and **SuperTest**
- Engineered resilience with **MongoDB** Replica Sets, **PM2** cluster & APM, **Nginx** web server and **Route53** name server