Mehul Agrawal

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Education

BITS Pilani, Hyderabad Campus *2017 - 2021*
B.E. in Computer Science *8.24/10*

Skills

- **Languages**: Proficient in Node.js, C/C++; familiar with Java, Python, SQL
- **Tools**: Kakfa, Git, Nginx, Cloudflare, Docker, ArgoCD, CircleCI, New Relic, Grafana, Postman
- **Cloud**: AWS (EC2, Beanstalk, ElastiCache, RDS, CloudWatch, Lambda, Route53, S3, MSK)

Experience

Postman *Apr 2023 - Present*
Software Engineer-II

- Achieved an average of 40% reduction in p95 latencies and a 50% decrease in average and maximum CPU utilization by writing Postman's in-house backend web framework in TypeScript and using it to replace Sails/Fastify in key microservices.
- Modernized Postman's event infrastructure by architecting and implementing a Kafka-based eventing system, replacing the legacy AWS SNS/Lambda solution. This new system processes >50MB/second of events with guaranteed exactly-once delivery semantics, supports payload sizes up to 1MB (4x improvement), and enables event replay capabilities. Achieved virtually 100% reliability while reducing infrastructure costs by 35% through better resource utilization. The system's schema registry and event discovery portal improved developer productivity by reducing integration time from days to hours.

Software Engineer-I *Jun 2021 - Mar 2023*

- Decreased server-side induced client reconnections by 95%, essentially eliminating the root cause. This was achieved through reliability improvements in the WebSocket gateway's implementation: inlining the underlying socket.io module to modify request and response payload parsing logic, and adding dynamic socket payload-size limits.
- Improved backend platform hygiene and reduced production errors by spearheading the organization's migration to TypeScript. Used AST parsing to automatically add type information to JavaScript codebases and implement a new configuration structure across services.
- Reduced the error rate in Postman's workspace load by 15% and achieved 50-80% performance improvement for an important internal endpoint, unblocking use cases for large enterprise clients. This was accomplished by implementing caching at a critical microservice boundary as part of the microservice availability initiative.

Intern *Jan 2021 - May 2021*

- Reduced time-to-production for configuration and released product changes from an average of 4 days to 2 minutes by implementing hot-reloading configuration support for Postman's WebSocket Gateway, which holds >2 million WebSockets during peak load.

Bank of New York Mellon *Aug 2020 - Dec 2020*
Graduate Summer Associate

- Developed user-facing tools to automate key operational tasks for the Revenue and Billing Services team at BNY Mellon.
- Used Visual Basic for Applications (VBA) and Microsoft SharePoint to streamline and automate tasks like VAT verification for high-volume transactions, and payments reconciliation for Transaction Lifecycle Management.

Achievements

- Received a spot award at Postman for outstanding performance in 2022.

Key Projects

File Sharing Application using Reliable UDP *Apr 2020 - May 2020*
Computer Networks

- Developed a file sharing application in Python by designing and implementing an application layer protocol for reliable data transfer over UDP based on Go-Back-N principle.
- Analysed network throughput by considering various parameters like network delay, packet loss, packet reordering, and packet corruption.