

Kunal Jain

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EDUCATION

Carnegie Mellon University

Master of Software Engineering in Scalable Systems

Relevant courses: Design Patterns, Software Architecture, Cloud Computing, DevOps and CI, Applied Distributed Systems

Pittsburgh, PA

Dec '23

QPA 4.19

Birla Institute of Technology and Science (BITS)

Bachelor of Engineering in Computer Science

Relevant courses: Object-oriented programming, Database Systems, Design and Analysis of Algorithm

Pilani, India

Sep '20

CGPA 8.09/10

SKILLS

Software Development

- Programming Languages: Advanced Java | Python | Golang | C++ | MySQL | JavaScript | HTML | CSS
- Frameworks: Vert.x | Flask | SpringBoot | ReactJS | Jooby | ActiveJ
- AWS Tools: S3 | EC2 | EBS | ECS | Glue | EMR | EKS | MSK | SQS | Airflow | Athena | IAM
- Other Tools: GCP | Azure | Kubernetes | Helm | Terraform | kOps | Docker | Hibernate | JOOQ | MySQL | Swagger | Pandas | Numpy | AJAX | Redis | Unix | Power BI | HBase | Neo4J | MongoDB | Shuttle | Git | Dockins | JIRA | Confluence | Trello

EXPERIENCE

Adobe | Software Engineering Intern | San Jose, CA

May '23 – Aug '23

- Spearheaded the development of an **MAU dashboard** for Adobe's Identity team, significantly **enhancing data visibility** and eliminating the need for time-consuming, manual queries by the engineering team
- Engineered a robust data pipeline using AWS services like S3, EBS, Glue, and EMR clusters, capable of processing 6TB of data through ETL within an hour, **improving operational efficiency**
- Established secure and compliant data handling practices, ensuring full adherence to PII and GDPR regulations, further bolstered by completing a Green Belt in security
- Integrated Power BI with AWS via an ODBC connector, designing a user-friendly dashboard with DAX queries that enabled segmented reporting by countries and teams
- Mastered Adobe's existing infrastructure and technologies, including Amazon Airflow, MSK, SQS, and Kinesis Firehose, to align the new dashboard and data pipeline seamlessly with current workflows

Myntra Designs Pvt. Ltd. | Software Development Engineer | Bangalore, India

Jul '20 - Jun '22

- Built novel authentication workflow to fix potential threats exposed in security audit where the solution checks the API request meta-data for correct authorization and **prevents security breaches** by limiting exposure from the API response
- Designed a dashboard using PromQL and Prometheus in Java and set up alerts to monitor system health and API performance, which was **99% more effective** than traditional Java VM profilers in catching anomalies and forestalling service crashes
- Modeled a solution from scratch in the form of a modular python microservice for improving the efficiency of a vital supply chain and logistics Radio-Frequency Identification (RFID) hardware by **reducing margin of error by 95%** using machine learning
- Migrated all JAVA microservices of the logistics team from virtual machines to Kubernetes, **reducing API response times by 70%**
- Developed and deployed multiple features using JAVA RESTful APIs and Golang for several releases, migrations, and audits

SCHOLARSHIPS AND LEADERSHIP RESPONSIBILITIES

- 2023 MSE Director's Scholarship – for leadership, program citizenship, and strong academic performance

Sep '23

- Vice President for MSELi – student board representing the MSE program at CMU

Jan '23 – Dec '23

- Team Leader for Practicum Team – responsible for leading the team to set up AWS infrastructure and deliver an MVP platform while ensuring high quality and adhering to requirements and quality attributes

Aug '23 – Dec '23

PROJECTS

High-traffic QR code resolver and blockchain validator

Feb '23 – Mar '23

- Implemented a web-tier application on AWS that was able to handle 75,000 requests per second
- Compared different web frameworks in terms of performance and used the frameworks Jooby and Vert.x
- Explored tradeoff between cost and performance of different AWS EC2 instance types
- Evaluated the differences between different load balancing solutions like ALB, ELB, NLB, and Ingress
- Built, profiled, and optimized the web service to perform computationally expensive tasks
- Automated the deployment of containerized microservices to Kubernetes using kOps cluster definitions, Helm charts, Kubernetes manifests, and Terraform configurations
- Optimized web server for intensive load over a certain period of time using Horizontal Pod Autoscaler and Cluster Autoscaling

Social media clone using heterogeneous storage on cloud

Feb '23 – Mar '23

- Created a Facebook clone using SQL and various kinds of NoSQL databases
- Used MySQL to authenticate and authorize users by returning their token used for session management securely
- Implemented and populated Neo4J's graph database to store and manipulate social network graphs efficiently
- Leveraged MongoDB's document store to store posts and their reply chain for a quick retrieval
- Explored several ways to boost query performance like fine-tuning database parameters, indexing, and caching