

Makarand Madhavi

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EDUCATION

Northeastern University, Boston

M.S in Software Engineering Systems (GPA: 3.8)

Boston, MA

April 2024

Mumbai University, Mumbai

B.E in Information Technology

Mumbai, India

June 2021

SKILLS

Programming: Java, Python, JavaScript, TypeScript, HTML/DOM, CSS, Unix shell

Frameworks, Libraries and Tools: Spring Boot, Node.js, React, Node.js, Flask, Kafka, git

Database Software: PostgreSQL, MySQL, MongoDB, Aerospike, DynamoDB

Cloud-Native: AWS, GCP, Kubernetes, Docker, Pulumi, Terraform, Hashicorp Packer, GitHub actions

WORK EXPERIENCE

Software Engineer

BioprocessAI INC

Jersey City, NJ

May 2024 – Present

- Led a major migration of a **Next.js** application from Vercel to **AWS**, building Linux-based **AMIs** and implementing autoscaling and spot-instance allocation strategies that reduced operational costs by **75%**.
- Architected a messaging and notification system for a multi-tenant bioinformatics platform using **REST** based stateless **APIs** and AWS SQS, achieving **99.9%** message delivery reliability and scaling to support over **5,000** concurrent users.
- Spearheaded the deployment of scalable microservices on AWS via **CI/CD** pipelines with GitHub Actions and Infrastructure as Code with **Pulumi** achieving **30%** reduction in manual configuration errors.
- Optimized scalable enterprise-level **RESTful APIs** using **Java (Spring Boot)** and **MongoDB**; improved data retrieval performance by **20%** with asynchronous processing and caching.

Software Engineer

Amplifi

New York City, NY

January 2024 – April 2024

- Orchestrated a seamless transition to automated **Heroku** deployments triggered by GitHub commits; achieved 50% faster feature releases and significantly optimized the developer workflow by reducing manual intervention.
- Designed and integrated a custom fintech API in **React** and **Node.js** based on customer feedback and translating them into functionalities, boosting user retention by 35%.
- Reduced manual workload by **40 hours** per week through development of a real-time dashboard in **Next.js** and **postgreSQL** leveraging existing API integrations.

Software Engineer

IDFC First Bank

Mumbai, India

July 2021 – August 2022

- Implemented **CI/CD pipelines**, **Grafana** and **Kibana** dashboards leveraging **git**, GitHub, **docker** and Artifactory for deployment of microservices on **Kubernetes** clusters reducing deployment time by 32% and increased system uptime.
- Achieved **99.99%** system availability of production servers through efficient troubleshooting of critical issues during a total of **6-weeks** of on-call rotation.
- Applied object-oriented programming, data structures and algorithms to write unit tested RESTful APIs and **Kafka** consumers in **Java** leveraging Micronaut framework delivering average API response time of **10ms**.
- Developed integration testing framework leveraged by all engineers within the team reducing testing effort and code length for tests by **50%** and delivering robust micro-services leading to being Awarded **Arête Award for Delivery Excellence**.
- Increased system efficiency by **30%** by proposing data models and architectural solutions that took into consideration business requirements and access patterns.

Projects

Cloud Native Webapp (Cloud Computing Project)

Pulumi, AWS, GCP, Git, GitHub

Boston, MA

January 2024 – April 2024

- Championed DevOps practices by implementing **CI/CD pipelines**, **Infrastructure as Code with Pulumi**, and Git forking workflows with **GitHub Actions** to ensure secure and stable codebases and infrastructure.
- Built and deployed microservices on **AWS**, leveraging VPC, EC2, RDS, IAM, security groups, Load Balancers, SNS, Lambda functions, mail servers, and Google Cloud buckets.
- Designed and implemented a cloud-native application with centralized logging, monitoring, and alerting with email integrations for comprehensive system observability.

NU Chronicles (Web Design and UX Engineering)

React, NodeJS, Express, MongoDB, SCSS

Boston, MA

September 2023– November 2023

- Built visually appealing and user-friendly web application using **HTML5**, **CSS3**, and bootstrap to assist new university students with off-campus housing, groceries, restaurants, attractions, and live events.
- Engineered a seamless integration of a **React**-based front-end with a robust back-end using RESTful APIs, Express, and **MongoDB**; improved data retrieval speed by 40% and user satisfaction by 25%.