

# Pawan Bhandarkar

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Portfolio: [bhandarkar.me](https://bhandarkar.me)  
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## Education

### Carnegie Mellon University

Mountain View, CA

*Master of Science in Software Engineering; GPA: 4.0/4.0*

*Dec 2023*

**Courses :** Cloud Computing, Foundations of Software Engineering, Software Requirements & Interaction Design, Software Testing

### NMAM Institute of Technology

Nitte, India

*Bachelor of Computer Science; GPA: 9.8/10 (top 1%, Class of 2020)*

*Apr 2020*

**Courses :** Data Structures & Algorithms, Object Oriented Modelling & Design, Operating Systems, RDBMS

## Skills

**Languages :** JavaScript (ECMAScript 6), TypeScript, Python, Java, C++, C#, Go, GraphQL

**Tools :** Kafka, AWS, ActiveMQ, Azure, Docker, Redis, Terraform, Kubernetes, Linux, gRPC, New Relic

**Frameworks :** React, Flask, PostgreSQL, Flutter, Redux, NodeJS, Express, MongoDB

**Soft Skills :** Communication (verbal and written), Leadership, Collaboration, Mentorship

## Experience

### TuneIn Radio

San Francisco, USA

#### Software Engineer Intern, Platform

*Jun 2023 - Aug 2023*

- Enhanced real-time data delivery for up to **7.5 Million monthly users** by spearheading the development of subscription-based APIs using WebSockets. Utilized Test-Driven Development in Go to ensure a robust GraphQL API gateway
- Engineered high-throughput data communication pipelines, processing over **2 Million messages per day** with latencies under **30 ms** using Apache ActiveMQ and Redis Streams on AWS ElastiCache
- Achieved **95% code coverage** with testing and load-tested **100,000 concurrent requests** to ensure production readiness
- Automated microservice deployment with Terraform and Kubernetes. Maintained **99.9% uptime** with New Relic monitoring
- Expanded the legacy C# (.NET Core) monolith with support for live streaming metadata for over **120,000 radio stations**
- Collaborated with Product Managers to translate business requirements into technical specifications

### Team AIBOD Inc

Fukuoka City, Japan

#### Software Engineer 2

*Nov 2021 - Apr 2022*

- Created a React component library, **eliminating 50% of UI variants**, enhancing consistency in a POS system
- Engineered an information management system for serving up to **150,000 users daily**, with Python, SQL and GraphQL
- Led the development of a payment microservice, handling **200 transactions per hour**, with gRPC, Flask and PostgreSQL
- Conducted A/B tests to understand user behavior, tailoring the information management system to better suit user needs
- Engaged in cross-functional meetings with PMs and designers to ensure alignment between user needs and development tasks

#### Software Engineer 1

*Feb 2020 - Oct 2021*

- Slashed total API calls by 80%** by pioneering the use of Redux, contributing to a **20% improvement** in app load times
- Integrated 30+ RESTful APIs** leveraging Apiary and Postman, resulting in enhanced app functionality
- Set up a Jenkins CI/CD pipeline that automated **100+ weekly builds**, while utilizing AWS services like ECR, ECS, S3, and AWS Fargate for seamless DevOps

## Projects

### Incident Response | React, CloudFront, Docker, Socket.IO, MongoDB, Jenkins

*Feb 2023 - May 2023*

- Led the frontend development of a mobile-first communication platform for citizens and first responders during emergencies. Used Ant Design, Figma and Storybook for the UI, refactored the codebase and advised the team on best practices in UI development and accessibility. Deployed the app to S3 using Jenkins and CloudFront

### Kanban Task Manager | React, EC2, ECR, Docker, NodeJS, MongoDB

*Jan 2023 - Jun 2023*

- Developed a responsive web app with pixel perfect user interfaces based on Figma designs. Used Client-Server architecture with dynamic theming and drag-and-drop UI, focusing on A11y, ARIA and Semantic HTML. Deployed to AWS EC2 using Docker and ECR with a CI/CD pipeline using Github Actions. Handled security with HTTPS/SSL on the AWS Load Balancer

### Cloud Resource Optimization | AWS, Terraform, Python

*Sept 2023 - Present*

- Engineered an AWS-based auto-scaling solution simulating 24-hour traffic in 24 minutes for a web service. Utilized Auto Scaling Groups, CloudWatch Alarms, and Load Balancers to dynamically manage CPU utilization and traffic. Deployed and versioned the infrastructure using Terraform and a CI/CD pipeline

## Awards & Leadership

**Sakura Science Fellow :** Received a fully-funded scholarship from the Japan Science and Technology Agency to participate in a research internship at Ritsumeikan University, Japan

**Teaching Assistant :** Demonstrated strong leadership and team collaboration skills as a Graduate Teaching Assistant for three courses: Foundations of Software Engineering, Software Requirements & Interaction Design and Introduction to Graduate Studies