Pawan Bhandarkar

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Education

Carnegie Mellon University | Pittsburgh, PA
Master's in Software Engineering | *Dec 2023*
Affiliations: Graduate Teaching Assistant, Research Associate

Experience

Converge Lab | Sunnyvale, CA
Founding Engineer | *Jan 2024 - Present*
- Built an LLM-powered hardware co-designer that allows Field Application Engineers to find, compare, and evaluate electronic components using natural-language
- Designed and developed a frontend with generative UI, feedback for AI evaluation, tiered access control, and more, with state managed via Hooks + Context API and errors monitored via LogRocket
- Contributed to developing a RAG backend with tools like Pinecone and Elasticsearch for context retrieval, DynamoDB for storage, and Langchain for the agent.
- Rapidly iterated on prompt engineering using unit tests for the LLM calls as well as the providers' API consoles
- Developed data extraction pipelines in Python for online processing of EC datasheets and use in LLM context

TuneIn Radio | San Francisco, CA
Software Engineer Intern, Platform | *Jun 2023 - Aug 2023*
- Enhanced real-time data delivery for up to **7.5 Million monthly users** via subscription-based APIs using WebSockets. Used 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
- 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**

Team AIBOD Inc | Fukuoka City, Japan
Software Engineer | *Nov 2021 - Apr 2022*
- Created an accessible, mobile-first React component library, promoting a consistent design language within the company
- 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
- Collaborated with Product Managers to translate business requirements into technical specifications
- **Slashed total API calls by 80%** by pioneering the use of Redux, contributing to a **20% improvement** in app load times
- Built and documented **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

Skills

Frameworks : React, Redux, NodeJS, LangChain, PostgreSQL, Express, MongoDB
Tools : Pinecone, ElasticSearch, Docker, Redis, AWS, gRPC, Sentry, LogRocket
Languages : Python, TypeScript, JavaScript, Go, Java, C#, C++, GraphQL
Soft Skills : Communication (verbal and written), Leadership, Collaboration, Mentorship

Projects

AgentDocs | *OpenAI, React, TypeScript, Tailwind* | *Sept 2023 - Present*
- Built an MVP for a collaborative text editor like Google Docs where you can @mention AI Agents specialising in different tasks, such as summarization, translation, and image generation. Used OpenAI's GPT-3.5 API to generate summaries of documents. This work is based on an open-source project called Novel.sh

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