

Contact

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Education

Boston University 2015

Master of Science
Computer Information Systems
IT Security

Berklee College of Music 2008

Bachelor of Arts
Music Synthesis and Music Business

Technical Skills

Artificial Intelligence

- LangChain (Python)
- Generative AI models
 - Anthropic
 - OpenAI

Languages and Frameworks

- JavaScript (NodeJS)
- TypeScript (React, Angular)
- Python (Flask, FastAPI)

CI/CD

- Docker
- Kubernetes
- ArgoCD
- Ansible
- Jenkins

IT Security

- Auth protocols
- SSO integrations
- Vulnerability remediation

Database Management

- PostgreSQL
- MongoDB
- Redis

Katie Amaral

Software Engineer

www.katieamaral.com

Experienced full-stack software engineer currently working at Harvard University building modern, accessible, and large-scale multimedia services for the largest academic library in the world. Advocate for best practices in security, architecture design principles, and code quality. A motivated life-long learner committed to continuous career development.

Experience

Harvard University

April 2019 - Present

Senior Software Engineer

Library Technology Services

- Artificial Intelligence - Leverage generative AI models to modernize library discovery by enabling natural language interaction with catalog services
- Front-End Development - Design responsive, accessible, user-friendly interfaces meeting or exceeding standards for library UX and accessibility
- Back-End Development - Build large-scale, performant, and secure backend services interconnected with REST APIs and message queues to support a large volume of requests for mission-critical applications serving patrons around the world
- CI/CD - Automate workflows, orchestrate deployments, and manage configurations
- Security - Write all software with secure coding practices such as encryption, session management, network security, input validation, parameterization, event logging, access controls, and more; build and integrate authentication and authorization services; scan applications and remediate security vulnerabilities
- Automated Testing - Write unit and integration tests with coverage analysis

Project highlights

- AI library catalog chatbot - Built an AI chatbot to modernize the UX for patrons searching the library catalog, enabling natural language interaction and reducing the amount of time required for research and discovery
- International Image Interoperability Framework (IIIF) - Acted as technical lead to design and build a modernized asset delivery infrastructure based on IIIF specifications and APIs
- Authentication & Authorization services - Designed and built a centralized authorization API to verify JWT tokens and return allowed permissions; designed and built an SSO login service that integrates with central authentication services

Broad Institute of Harvard and MIT

March 2015 - April 2019

Software Engineer

Broad Institute Technology Services

- Full-Stack Development - Designed and built custom web applications working in all levels of the tech stack including front-end, backend, databases, authentication, version control, deployment, monitoring, security controls, upgrades, and support
- Systems Integration - Integrated systems with web service APIs
- Systems Administration - Linux and Windows server administration
- QA Testing - Created QA test matrix, write automated testing scripts
- CI/CD - Automated software build and deployment workflows
- IT Automation - Automated IT tasks with scripts and scheduled jobs
- IT Security - Analyzed systems for security vulnerabilities, implement controls and patches, adhere to security best practices, ensure compliance with regulations
- ServiceNow SaaS - Developed custom applications in the ServiceNow platform