Akshay Shivashankar Bharadwaj

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Education

University of Southern California, MS in Computer Science (GPA 3.8) Jan 2025 – Dec 2026

- **Courses:** Analysis and Design of Algorithms, Web Technologies, Machine Learning and Operating Systems

BMS College of Engineering, BE in Computer Science (GPA 4.0) Aug 2018 – Jun 2022

- **Courses:** Data Structures and Algorithms, Web and Database design, Artificial Intelligence, Machine Learning

Experience

IT Engineer, Qualcomm - Bengaluru, India June 2022 – Dec 2024

- Conceptualized and developed an **AngularJS–Flask app** using **ServiceNow APIs** to automate RFC (request for change) creation and tracking to reduce manual load and saving **100+ engineering hours per month**.
- Spearheaded onboarding and deployment of **70+ web applications** on Amazon Linux EC2 using **Python-based AWS Lambda automation**, **MFA integration**, and **24/7 AWS CloudWatch monitoring** to improve uptime and security.
- Collaborated with cross-functional Dev, QA, and Infra teams to **automate scalable deployments** using **AWS CloudFormation**, streamlining CI/CD and environment setup **avoiding application downtimes**.
- **Containerized microservices** with **Docker and Kubernetes**, building an end-to-end **AWS framework** (AWS EKS, S3, Route53, VPC, Lambda, RDS, CloudFormation etc.) that cut deployment time by almost **50%**.

Interim Intern, Qualcomm - Bengaluru, India Feb 2022 – Jun 2022

- 5 month internship involving completing a project to create a seamless deployment infrastructure on **AWS Cloud using CloudFormation and Lambda** to deploy Java based applications with minimal input.

Projects

Artsy - Mobile and Web Front End using Android Studio and AngularJS

- As part of the Web Technologies course (CSCI-571) I developed a Web and Mobile Front-end deployed on the **Google Cloud Platform (GCP)** for an application mirroring the Artsy application showcasing artist information.
- Utilized **REST APIs, AngularJS** and **Android Studio** with a **NodeJS (Express)** and **MongoDB** backend.

Triviophilia — Team-Led Full-Stack Web Application for Online Academic Quizzes

- **Led development** of a centralized platform enabling admins to **host and manage academic quizzes** and students to **participate and view scores**, for my undergraduate institution
- **Built full-stack functionality** using **HTML, CSS, JavaScript, and PHP**, and designed a **MySQL database** for student and administrator authentication, quiz management, and scoring.

Operating Systems Kernel Development — Weenix (Unix-Like OS Kernel)

- **Designed and implemented core kernel subsystems** in C, including process and thread management (scheduling, context switching, synchronization), virtual file system (VFS), and system calls within a Linux-inspired OS kernel.
- **Developed virtual memory and process creation mechanisms**, implementing virtual memory mapping, page fault handling, and `fork()`-based child process creation to support concurrent user processes and robust memory isolation.

Eye-Move: Eye-Tracking Based Typing Application

- Leveraged Python and its Computer Vision based libraries, mainly **OpenCV and DLib** for eye blink detection and creation of a virtual keyboard to help motor-neuron disability patients with communication.

Scientific Collaborator - Moonquake Alert System (MAS), Space@yourService - EPFL

- Built a **Python-based** data science application for moonquake detection leveraging seismic data recorded by lunar rovers.
- Coordinated with EPFL university for testing and deploying application on **Docker containers** for evacuation procedures as part of the experiment 'Asclepios' regarding establishing a base on the moon.

Technologies

Languages: Python, C++, C, Java, SQL, JavaScript, PHP, HTML, CSS, Unix Shell Scripting

Core Technologies: AWS Cloud (**AWS Certified Solutions Architect - Associate**), Docker, Kubernetes, Tomcat, Flask, REST APIs, AngularJS, MongoDB, MySQL, Datadog, PowerBI, Linux Kernel Programming