

# PRABHJOTSINGH

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## SUMMARY OF QUALIFICATIONS

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**AWS Certified Associate Developer** with **6 years of experience** building scalable, secure and high-performance backend systems using **Python**, **AWS**, and modern cloud-native technologies. Proven track record in leading the delivery of major product features, driving cross-functional collaboration, and improving system performance across high-throughput, real-time media platforms. Experienced in designing and maintaining distributed systems for ingesting and processing large volumes of structured, unstructured, and video-based data along with a background in **DevOps**, **CI/CD pipelines**, **GitHub Actions**, **Infrastructure as Code (IaC)**, cloud automation and **SDLC practices**, while working in an **Agile Scrum** environment to ship reliable, production-ready solutions.

## EXPERIENCE

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**Evertz.io** Jan 2023 - Present  
Toronto, ON

*Software Development Engineer*

- Owned and maintained **4+ critical backend services**, driving continuous modernization through dependency lifecycle management, package manager migrations, and regular **codebase housekeeping** to ensure reliability, performance, and long-term maintainability.
- Led development of new **microservices** using Python and FastAPI, collaborating with product, UI, and cross-functional teams to deliver scalable RESTful and WebSocket solutions for content streaming. Designed data layers leveraging relational (**Aurora MySQL**) and non-relational (**DynamoDB**) databases, using **SQLAlchemy** within AWS Lambda and EC2 to ensure high performance, maintainability, and reliability across services.
- Built an optimized CI/CD pipeline using **GitHub Actions** with automated changelog generation, semantic auto-versioning, and AWS CodeArtifact publishing for a **Python** based PEX service. Enhanced deployment speed further by introducing GitHub Action driven AMI generation that pre-installs required artifacts along with the PEX cutting repo size by 50% and improving EC2 launch times by 30%.
- Engineered an **asyncio** asynchronous, event-driven **FastAPI** service packaged as a **Python PEX** and deployed on EC2 instances to enable high-throughput system monitoring and real-time operational insights.
- Designed and deployed a real-time **autoscalable** media-fragment processing microservice running on **docker** containerized FastAPI workers orchestrated via Elastic Kubernetes Service to ensure consistent sub-second SLAs in a distributed environment. Integrated **Amazon Kinesis Data Stream** for sub-second event ingestion, enabling high-throughput processing of thousands of media fragments per second.
- Architected **AI-driven** metadata enrichment and content validation workflows leveraging **OpenAI integration** to automatically classify, summarize, and tag media assets, while also performing real-time visual assertions on video stream snapshots to ensure content integrity and operational correctness.
- Developed automated Python script to identify and terminate orphaned **AWS EC2** instances, media connects, unattached EBS volumes and outdated AMIs across dev/test environments, reducing monthly cloud spend by ~35%.
- Implemented robust observability across distributed services using **Honeycomb** and **OpenTelemetry**, improving real-time monitoring and accelerating root-cause analysis. Combined observability with systematic load testing and latency profiling, reducing **mean time to resolution (MTTR)** by **~25–30%** and proactively identifying performance bottlenecks and failure patterns before production impact.
- Conducted research and implemented a proof of concept (PoC) for AWS Dedicated Hosts, **reducing vendor license requirements by 30%**, optimizing resource utilization, and **cutting costs by 25%**.
- Implemented **automated vulnerability detection** by integrating dependabot and upgrading outdated libraries, proactively addressing **CVEs** and strengthening platform security; additionally evaluated cloud-native security tools like **AWS Inspector** and Security Hub to identify risks across infrastructure resources.
- Implemented a contract-first API development approach using **Swagger/OpenAPI**, maintaining a centralized specification integrated with IaC workflows (**CloudFormation**, Terraform, CDK) that streamlined API design, improved documentation accuracy, and ensured consistent alignment between API contracts and backend services across environments.
- Implemented unit testing using **PyTest** and collaborate closely with QA to achieve **95% test coverage** for end-to-end testing.

**Deloitte USI**

May 2021 - Apr 2022

*Software Development Analyst*

India

- Developed **ETL** pipelines using **AWS Glue** with PySpark and Pandas to load and transform data from various sources into AWS S3 DataLake.
- Migrated database and services to a new schema, removing backward compatibility code and **reducing API load time by 20%**, significantly improving performance.
- Developed and deployed Serverless **RESTful** solutions using AWS Lambda and API Gateway along with **AWS SAM**.
- Worked on data dimensional modelling techniques like star schema.
- Crafted complex SQL queries, employing self-joins and correlated sub-queries for data manipulation and retrieval.
- Utilized **AWS Redshift** for data warehousing and contributed to Airflow workflow management.

**Associate Software Developer**

- Architected and developed **serverless** and stateless solutions on AWS.
- Developed **RESTful** and **WebSocket** microservices using AWS Lambda, API Gateway, DynamoDB, Aurora MySQL, and Python to perform **CRUD operations** and manage customer data efficiently.
- Worked on Python frameworks like **Flask** and **FastAPI** along with Libraries like **SQLAlchemy**, **Numpy** and **Pandas**.
- Implemented and invoked APIs with **OAuth** and **mTLS** authentication.
- Created software applications in **Test-Driven Development (TDD)** environment using PyTest and UnitTest.
- Worked on integration and deployment tools like **GitHub**, Bitbucket, Jenkins and Docker.
- Provided support for incidents, **contribute to bug fixes**, ensuring a stable and reliable application.
- Worked on AWS monitoring (**CloudWatch**, CloudTrail) and infrastructure as a code service (Cloud Formation and Terraform).

**SKILLS**

**Programming Languages:** Python, Java, JavaScript.

**Tools & Platforms:** GitHub, GitHub Actions, Asyncio, Jenkins, Linux, Docker, Terraform, JIRA, Confluence, Pandas, Numpy.

**Cloud & AWS Services:** EC2, Lambda, API Gateway, SQS, SNS, Glue, S3, RDS, Redshift, IAM, Kinesis, Step Functions, DynamoDB, AuroraDB, Cloud Watch, Event Bridge.

**API & Web Services:** Swagger, OpenAPI, Postman.

**Databases:** MySQL, Aurora MySQL DB, DynamoDB.

**EDUCATION**

**Trent University, Peterborough, ON (Master of Science, Big Data Analytics) GPA: 4.0 / 4.0**

**May 2022 - Sept2023**

*Coursework: Data Science with Python, Artificial Intelligence, Data Mining, Data Visualization*

**Punjab Technical University, Punjab, India (B.Tech., Computer Science) GPA: 8.12 / 10.0**

**July 2015 - June 2019**

*Coursework: Data Structures and Algorithms, Operating Systems, Networking, Relational Database Management Systems*

**ACHIEVEMENTS AND CERTIFICATIONS**

- Deloitte Applause Award.
- **AWS Certified Associate Developer.**
- AWS Certified Cloud Practitioner.
- Microsoft Azure Fundamentals.
- Microsoft Azure Data Fundamentals.
- Microsoft Azure AI Fundamentals.