

Parth Patel

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EDUCATION

San Jose State University – *Master's in Software Engineering* | GPA: 3.7

University of Toronto – *Bachelor of Science in Mathematics and Statistics*

Technical skills: Python, C/C++, Java, JavaScript, TypeScript, React, Node.js, Flask, SQL, AWS, Azure, GCP, Docker, Oracle, MySQL

WORK EXPERIENCE

Deloitte, Software Engineer

July 2022 – Nov 2024

Client: Public Health Agency of Canada

Tech stack: Python, TypeScript, React, Flask, Azure

- Achieved the **Deloitte Silver Dot Award** for leading a **FHIR-compliant cloud-based** solution for the Public Health Agency of Canada's Vaccine Surveillance team.
- Built a **TypeScript, Python, Flask** web-application delivering real-time vaccine data insights for 3 provincial health teams.
- Architected **Azure** Functions and Data Factory solutions in Python that improved **system performance by 30%** and reduced operational costs.
- Implemented an Azure ETL pipeline that automatically detects and redacts PII, ensuring HIPAA compliance for real-time healthcare records.

Client: Employment and Social Development Canada

Tech stack: C++, Java, GitHub Actions, Git, AWS

- Led the delivery of an **AI chatbot** that boosted internal productivity by replacing static guides with visual walkthroughs.
- Developed a **C++ automation** tool that reduced ticket handling time by **2+ hours** and increased completion accuracy.
- Streamlined feature deployment to ESDC's **Java platform** using GitHub Actions for CI/CD and **AWS** Elastic Beanstalk.

RESEARCH & PROJECTS

Research at San Jose State University – AI-Powered Code Feedback System

May 2025 – Present

Tech stack: Python, Docker, MySQL, SQL, GitHub, CodeBERT

- Developed a **Python AI model** by analyzing 24 semesters of programming assignment data to generate actionable code feedback for students.
- Designed and built **Docker** containers for the AI model, training pipeline, and inference API.
- Deployed the AI feedback system to a production server using **GitHub Actions**, serving instant, personalized feedback to students across **8 classes** at two universities.
- Optimized AI model training and inference by **50%** by using abstract syntax tree libraries and **CodeBERT** model.

QuizMaster – Full-Stack AI Quiz App ([Live Demo](#))

April 2025

Tech stack: React, TypeScript, Python, AWS Lambda, API Gateway, S3, DynamoDB, Gemini, Firebase, Vitest

- Designed and developed a full-stack AI quiz generation platform using React, TypeScript, and serverless **AWS backend** integrated with **Google Gemini's API**, enabling users to generate, save, and share custom auto-generated quizzes.
- Automated deployments on EC2 instances using **AWS** CodePipeline and CodeDeploy.
- Implemented an authentication/authorization system using **Google Firebase**, allowing users to sign in using Gmail.
- Designed and conducted comprehensive **testing** strategies using **Vitest** for API functionality and error handling.

CERTIFICATIONS

- GCP **Professional** Data Engineer Certification (**Stack:** Google Kubernetes Engine, App Engine, BigQuery, GCS, Vertex AI)
- Azure Data Engineer Associate Certification (**Stack:** Azure Functions, Azure VMs, Azure SQL, Azure Synapse Analytics)

OTHER SKILLS

- Ranked #1 in Operating Systems course at SJSU.
- Proficient in **containerization** concepts and cloud architecture via certifications.
- Experienced with relational and NoSQL databases (**Oracle, MySQL, BigQuery, and DynamoDB**).