

Simardeep Singh

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SUMMARY

Innovative and detail-oriented Software Engineer with hands-on experience in cloud solutions, DevOps, full-stack development, and AI/ML. Adept at designing scalable microservices and automating processes that drive efficiency and cost savings. AWS Certified Solutions Architect – Associate, skilled in agile development and collaborative problem solving.

EDUCATION

University of Guelph, Bachelor of Computing, Software Engineering | GPA: 3.52 **Sep 2020 - Sep 2024**
• Achievements: Graduated with Distinction, 2 times Dean's Honors List, total 3 scholarships

Athabasca University, Intro to Database Management | GPA: 4 **Jun 2024 - Aug 2024**

CERTIFICATION

AWS Certified Solutions Architect – Associate ([Credentials](#)) **Jan 2025 – Jan 2025**

WORK EXPERIENCE

Backend Developer Co-op, Candescant, Waterloo, ON **Jan 2025 – Present**
Candescant delivers cloud-enabled digital banking solutions with an API-first approach, empowering banks and credit unions at scale.

- Developed and extended APIs using Java Spring Boot with a TDD approach in a multi-tenant SaaS environment, integrating core adapters with diverse microservices and external APIs to drive feature expansion and resolve bugs.
- Utilized and monitored Jenkins-based CI/CD pipelines for containerized deployments on Google Cloud Platform, promptly troubleshooting build errors and ensuring reliable, real-time deployments.
- Deployed microservices using Docker and Kubernetes on Google Cloud Platform to ensure scalability and reliability.
- Collaborated on implemented a dedicated testing namespace within a GCP cluster, boosting development efficiency and reducing deployment conflicts by isolating test environments.
- Performed performance testing using JMeter, identified root cause of slow response time, and provided metrics to the team, leading to a 75% improvement.

Backend Developer Co-op, NCR Voyix, Waterloo, ON (Outstanding Evaluation) **Jan 2024 - Aug 2024**
NCR Voyix transforms retail and restaurant commerce through innovative, cloud-based POS and digital transaction platforms.

- Enhanced microservices and developed reusable RESTful APIs using in-house tools, PostgreSQL, and Java Spring Boot, contributing to increased feature scope.
- Developed reusable React.js components, that streamlined development efforts and reduced redundant coding.
- Architected a Kubernetes sandbox environment, mentoring team members on its setup, leading to error free client demos.
- Implemented detailed end-to-end test automation using Spring Boot and Cucumber to ensure robust microservice interactions.
- Maintained CI/CD pipelines via Jenkins and GitHub Actions to support continuous integration and live deployments.

Teaching Assistant, University of Guelph, Guelph, ON **Sep 2023 - Dec 2023**
• Instructed data structures and algorithms in C to over 250 students, reinforcing core computer science fundamentals through hands-on exercises and real-world examples.

Bioinformatician Co-op, Norgen Biotek Corp., Thorold, ON (Outstanding Evaluation) **May 2023 - Aug 2023**
Norgen Biotek pioneers advanced nucleic acid extraction and next-generation sequencing within a fully integrated, ISO-certified biotech environment.

- Diagnosed and resolved critical issues in bioinformatics pipelines (built in Python, Bash, and R) that were previously non-functional, then containerized them with Docker.
- Deployed the fixed workflows across 6 systems, ensuring consistent, reproducible execution and simplified maintenance.
- Optimized pipelines and script performance in Python, R, & Bash, making scripts faster & efficient by almost 60%.
- Authored SOPs for pipeline workflows, standardizing processes and enhancing troubleshooting efficiency across teams.
- Wrote several Python scripts for automatically generating and analyzing complex and large datasets.
- Learned and worked with unfamiliar bioinformatics tools such as Mothur, cutadapt, bbmerge, samtools, STAR, pysam and bioinformatics pipelines, leading to successful dockerization, which version controlled the pipelines.

Software Test Co-op, Intellijoint Surgical, Kitchener, ON **Sep 2022 - Dec 2022**
Intellijoint Surgical develops cutting-edge, technology-driven solutions to enhance orthopedic surgery and patient outcomes.

- Automated testing for macOS and iOS surgical software using CodeceptJS and Playwright, reducing manual testing time by 70%.
- Executed verification and validation and exploratory testing, using black box testing strategy, preventing potential surgical errors.

Software Developer Co-op, Camis Inc., Guelph, ON **May 2022 - Sep 2022**
Camis provides innovative, cloud-powered reservation and park management solutions for government-operated outdoor facilities.

- Collaborated in a SaaS rental dashboard using JavaScript, Tableau and MySQL, enhancing customer experience and operational efficiency.
- Designed end-to-end test plans with a primary focus on black box testing to validate expected functionalities across the app.
- Collaborated with team to develop user stories, requirements, tasks, and acceptance criteria for various software projects.
- Conducted comprehensive regression testing prior to each release to ensure a bug-free final product.

PERSONAL PROJECTS

- Data Discovery Hub ([GitHub](#)) ([Demo Videos](#)) ([Architecture](#))** **Feb 2025 - Mar 2025**
- Developed a full-stack Django web app for intuitive data exploration with REST APIs and PostgreSQL, containerized with Docker, deployed using Gunicorn, and integrated CI/CD pipelines with Sentry for real-time error tracking.
- MeetingLens – AI-Powered Meeting Assistant ([GitHub](#))** **Mar 2025 - Mar 2025**
- Designed an end-to-end solution leveraging Azure Cognitive Services and Azure OpenAI for real-time transcription and meeting summarization.
 - Developed a responsive React.js interface with Material UI for file uploads and displaying analytics, integrated with Azure Functions and Cosmos DB for scalable cloud processing.
- ViralSense: AI-Powered Epidemic Risk Analysis System ([GitHub](#))** **Mar 2025 - Mar 2025**
- Developed an AI-driven system that transforms healthcare data into a graph-based model (using ArangoDB) to identify epidemic risk areas.
 - Engineered GPU-accelerated analytics with cuGraph and NetworkX, and integrated LangChain to convert natural language queries into optimized database queries.
 - Delivered an interactive FastAPI backend and Streamlit dashboard for real-time visualization of outbreak clusters.
- MediTrack - Medication Reminder & Prescription Management App ([GitHub](#))** **Feb 2025 - Mar 2025**
- Developed a full-stack healthtech solution using Next.js (React, TypeScript), Flutter, Node.js, and PostgreSQL.
 - Engineered secure RESTful APIs with Node.js/Express.js, managed prescription data via PostgreSQL (using Prisma ORM).
- AppStoreAnalyticsQA ([GitHub](#))** **Mar 2025 - Mar 2025**
- Developed a SwiftUI based iOS app simulating an App Store Analytics dashboard that fetches and displays analytic metrics.
 - Automated unit, UI and REST API tests (Python), configured Charles Proxy for network debugging, set up CI/CD with GitHub Actions
- Weapon Detection System ([GitHub](#)) ([Detail Report](#)) ([Graphs](#))** **Nov 2023 - Nov 2023**
- Led the development of a multi-class weapon detection system using Python, TensorFlow, Keras, and YOLOv8.
 - Integrated OpenCV for data preprocessing and employed 5-Fold cross-validation to optimize model performance for real-time detection in images and videos.
 - Documented a detailed comparative analysis between a Feed Forward Neural Network and YOLOv8 to assess classifier efficiency.
- EduGraph ([GitHub](#)) ([Demo Videos](#))** **Sep 2023 - Nov 2023**
- Developed a full-stack web application for course recommendations using secure PHP REST APIs, MySQL for data storage, and dynamic visualizations with Vis.js.
 - Parsed data using Python (with a CLI and Excel UI via VBA) and deployed on AWS EC2 using Nginx, integrating CI/CD pipelines with GitHub Actions and GitLab CI/CD.
 - Implemented TDD-based testing with Selenium and ensured WCAG 2.1 accessibility compliance
- GryphHub ([GitHub](#)) ([Demo Videos](#))** **Feb 2023 - Mar 2023**
- Built a university website using Java and Object-Oriented Design concepts, enhancing accessibility to academic resources.
- Personal Portfolio ([GitHub](#)) ([Portfolio](#))** **Aug 2023 - Aug 2023**
- Built a responsive personal portfolio website using Astro's static site generation, optimizing performance and loading times.
 - Developed an interactive front-end with JavaScript, React, HTML, & CSS, featuring seamless navigation to show various sections.
- SVG Parser ([GitHub](#))** **Jan 2022 – Mar 2022**
- An application allows users to create, edit, and manipulate SVG files with ease, provides a versatile interface for working with scalable vector graphics, enabling precise and intuitive design modifications.
 - Developed front-end with JavaScript, HTML, & CSS; implemented server management & API integration.
 - Built a robust SVG parsing application using Node.js, combining an Express.js backend with a custom-built C library (via ffi-napi).
 - Employed AJAX using jQuery for real-time updates and utilized XML DOM for dynamic data handling, enhancing interactivity.
- ePortfolio ([GitHub](#)) ([Demo Videos](#))** **Nov 2021 - Nov 2021**
- Created a user-friendly GUI application for investment portfolio management implementing OOP in Java, Swing and AWT.
- COVID-19 Statistical Data Analyzer ([GitHub](#)) ([Graphs](#))** **Mar 2021 - Mar 2021**
- Proficiently processed, analyzed, and visualized COVID-19 data along with related datasets from .csv files.
 - Leveraged Python libraries (Pandas, Seaborn, Matplotlib, NumPy) to create insightful data representations.

SKILLS

Programming Languages: Java, Python, JavaScript, CSS, HTML, PHP, SQL, R, Bash, YAML, JSON, XML, Swift

Cloud Platforms: Amazon Web Services (AWS), Google Cloud Platform (GCP), Microsoft Azure

AI Tools: Django, TensorFlow, Keras, PyTorch, YOLOv8, Scikit-learn, Azure Cognitive Services, Azure OpenAI, Open AI, LLM, LangChain, LangGraph

Frameworks & Libraries: Spring Boot, React, Node.js, Express.js, Bootstrap, jQuery, AJAX, Scikit-learn, Matplotlib, Seaborn, Pandas, NumPy

DevOps & Tools: Docker, Kubernetes, Jenkins, Nginx, Git, Agile, Maven, Linux, Tableau, Postman, Helm, Sentry, GitHub, GitLab

Test: Charles Proxy, JUnit, Mockito, Selenium, Playwright, CodeceptJS, Cucumber, TestCafe, TDD, WireMock, Spring Cloud Contract

Database Technologies: PostgreSQL, MySQL, ArangoDB, Azure CosmosDB

Core Web Principles: Responsive Design, REST APIs, HTTP, DOM manipulation, web server management

Additional Skills: Machine Learning fundamentals, Data Processing, Distributed Systems, Containerization, Data Visualization, API Integration, Version Control, Microservices Architecture, Object Oriented Programming (OOP), SOLID principles, Agile

EXTRACURRICULAR ACTIVITIES

- **National Soccer Player (India):** Represented at the national level, demonstrating discipline, teamwork, and leadership.
- **NASA Ames Space Settlement Competition:** Invited by NASA for innovative problem-solving in an international contest.
- **Hobbies:** Committed to staying active by hitting the gym and playing sports (especially soccer), reflecting a strong work-life balance.