Simardeep Singh

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TECHNICAL SKILLS

Languages: C, Java (Spring Boot), Python (TensorFlow, PyTorch, Keras, Scikit-learn, YOLOv8), JavaScript (node.js, React Native), HTML, CSS, R, Bash, YML, JSON, XML, Astro

Development: Docker, Git, Automated Testing, Linux, IntelliJ IDE, Kubernetes, GCP, Jenkins, REST APIs, Kafka

Database: PostgresSQL, MySQL

Others: Microservices, Object-Oriented Programming, Data Structure and Algorithms, SDLC, Agile methodology, Machine Learning

WORK EXPERIENCE

Backend Developer, NCR Voyix, Waterloo   **2 Jan 2024 – 29 Aug 2023**
- Developed and implemented new features for **microservices** architecture using **Java Spring Boot**, **Kubernetes**, **PostgreSQL** and **Helm**, enhancing system functionality and performance.
- Utilized **GCP** and **Jenkins** for CI/CD, streamlining the development and deployment process.
- Collaborated with frontend team to integrate **React**, **JavaScript**, and **plugin architecture**, ensuring seamless interaction between backend and frontend components.
- Wrote and implemented e2e and automated testing using **cucumber** and **java**.
- Employed **Docker** to push images to the **Kubernetes** cluster, facilitating seamless deployment of **microservices**.

Grader, COOP*1100 - Introduction to Coop Education, University of Guelph   **5 Sept 2023 – 17 Aug 2023**
- Graded and provided detailed feedback to student on resumes, cover letters and interview presentations.
- Conducted orientation – training sessions to help students improve their skills.

Teaching Assistant, CIS*2520 - Data Structures, University of Guelph   **5 Sept 2023 – 17 Dec 2023**
- Provided comprehensive support for **Data Structures and Algorithms** in **C**, and **git**, including addressing inquiries, leading lab sessions, and ensuring exam integrity.
- Played a key role in student success by facilitating orientation, offering personalized support during office hours, collaborating on course material, managing correspondence, and providing constructive grading.

Bioinformatician Co-op, Norgen Biotek, Thorold, ON   **08 May 2023 – 31 Aug 2023**
- Achieved **Outstanding Evaluation** for my performance and completing tasks beyond what I was assigned.
- Led containerization of 3 vital bioinformatics pipelines using **Docker** in **Linux**, ensuring reproducibility & scalability.
- Optimized pipelines and script performance in **Python, R, & Bash**, making scripts faster & efficient by almost 60%.

Software Test Co-op, Intellijoint Surgical, Kitchener, ON   **6 Sept 2022 – 23 Dec 2022**
- Developed and executed, both **manual and automated**, software test plans using **CodeceptJS** and **Playwright,** reducing the time spent on testing by 70-80%.
- Found several bugs using exploratory testing, preventing some potential mistakes which a surgeon could have done while performing surgery.

Software Developer Co-op, Camis Inc., Guelph, ON   **30 May 2022 – 2 Sept 2022**
- Collaborated effectively in a team to construct a Rental Dashboard for Camis application using **SQL** making it easier to keep track of rentals.
- Demonstrated proficiency in unit test maintenance, ticket and bug report responses, and product design reviews.

PERSONAL PROJECTS

Weapon Detection System   **November 2023**
- Spearheaded the development of a robust multi-class weapon detection and classification system, leveraging advanced machine learning techniques. Integrated diverse weapon image datasets, totaling over 7000 images, and employed two distinct classifiers: a **Feed Forward Neural Network** and **YOLOv8**.
- Utilized Python for script development, incorporating libraries such as **Keras** for neural network training and evaluation, and **OpenCV** for data preprocessing. Implemented **5-Fold cross-validation** for neural network training, optimizing model parameters including 1 hidden layer with 40 nodes and a learning rate of 0.03. Trained **YOLOv8** on the entire dataset, enabling real-time weapon detection in both images and videos, with meticulous organization of training setups and directory structures.

Personal Portfolio website   **July 2023**
- Utilized **Astro**'s static site generation to ensure fast loading times and excellent performance.
- Achieved optimized performance and mobile responsiveness using **JavaScript**, **HTML, CSS**, ensuring a seamless user experience and improved online visibility.

GryphHub   **March 2023**
- University website built using **Java object-oriented programming** (OOP) concepts.
- Built use case diagrams, class diagram, entity diagram and sequence diagram for efficient planning.

EDUCATION

Bachelor of Computing, Software Engineering (Co-op), Minor: Entrepreneurship
University of Guelph, Guelph, ON   **Sept 2020 – Sep 2024**
- Maintaining CGPA of 84.016
- Name mentioned on the College of Engineering & Physical Sciences Dean's Honours List

Key Academic Projects:

COVID-19 Statistical Data Analyzer   **March 2021**
- Proficiently processed, analyzed, and visualized COVID-19 data along with related datasets from .csv files.
- Leveraged **Python** libraries to create insightful data representations, facilitating data-driven decision-making.

SVG Parser Web Application   **Jan 2022**
- Created and utilized an interactive web-based GUI that communicates user data with the server using **JavaScript**. Executed the integration of **C**-based SVG parsing libraries, ensuring compliance.