Daniela Gallegos Dupuis

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Technical Skills

Python, Java, C#, JavaScript, SQL, Docker, Jenkins, JMeter, Git, Linux, GCP, REST APIs, CI/CD, Distributed Systems, Concurrency, Cloud Infrastructure, Monitoring, Observability, Troubleshooting, Data Pipelines

Experience

Firmware Engineering May 2022 – Dec 2022
Schneider Electric

Extended Schneider's Python validation framework to interface power meters with Jenkins CI test racks, simulating RSTP network failures and validating firmware reliability across large hardware systems.

Human Computer Interaction and Visualization Research Assistant Jan 2024 – Jul 2024
VIXI Lab, University of Victoria

Developed an EyeLink 1000-based data-visualization pipeline with automated Python (pandas, NumPy) capture and frame-synchronized displays for precise, reproducible HCI experiments.

Computer Science Teacher Assistant Jan 2023 - Dec 2023
Faculty of Engineering and Computer Science, University of Victoria

Taught algorithms, data structures, and Python/SQL to 500 + students, automating grading and debugging support through live coding, code reviews, and custom scripts.

UVic GDSC Technology Leader Sept 2023 – Apr 2024
Google Developer Student Club, University of Victoria

Led React and REST API workshops and mentored 50 + students during full-stack builds and Hack-for-EDI events, guiding teams in Git workflows and web-app deployment.

Projects

cloudKV: Concurrent Java Key Value Store GitHub

Built a concurrent Java 17 key–value store exposing REST (JAX-RS/Jersey on Jetty) and HTTPS APIs with transactional persistence (JDBC/H2), atomic commits, and TTL eviction via `ConcurrentHashMap`.

Stock-Pulse: LSTM Stock Prediction GitHub

PyTorch LSTM pipeline for S&P 500 forecasting with Optuna tuning and MinMax scaling; achieved $\approx 1.2 \times 10^{-4}$ MSE, outperforming Random Forest, SVM, and Linear Regression baselines.

Scalable Stock Trading System GitHub

Distributed Docker-based platform with FIFO matching engine, Redis mutexes, and JWT APIs; sustained 17 k+ users under 15 % error after HAProxy–NGINX optimization.

Google SPS: Software Product Sprint Portfolio GitHub

Developed a full-stack portfolio web app, using Java and Google Datastore, and deployed on Google Cloud Platform

WaveRider: Music-Driven Rhythm Game GitHub

Built a Godot-based rhythm game integrating Librosa MIR analysis (beat, onset, and chroma detection) with real-time visual effects and procedural level generation.

ILLE: VR Mental-Health Experience (MIT Reality Hack 2023) GitHub

Unity VR experience for Meta Quest 2 (C#, Blender, Cinema4D) enabling speech-to-avatar interaction and third-person self-reflection.

Education

University of Victoria Sept 2020 – Aug 2025
B.Sc. in Computer Science (NSERC Undergraduate Student Research Award Winner)

National University of Singapore Aug 2024 – Dec 2024
Computer Science Exchange Student (One World Scholarship Winner)