Joseph Lee

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Education

University of Waterloo — Waterloo, Canada
Bachelor of Computer Science — *Sept. 2024 – June 2029*

- President's Scholarship of Distinction
- Relevant Coursework: OOP, Data Structures & Algorithms, Combinatorics, Optimization

Experience

Software QA Analyst — Sept. 2025 - Dec. 2025
Environment and Climate Change Canada — *North York, Canada*

- Designed E2E regression suites in Python, Robot Framework, TypeScript, and Playwright, cutting manual test cycles by 60% and surfacing 20+ defects pre-release
- Owned cross-environment test plans (functional, integration, usability), partnering with developers through UAT sign-off
- Drove defect triage in Azure DevOps, consolidating duplicates and lowering duplicate report rate by 40%

IT Technician and Support Analyst — May 2025 - Dec. 2025
Environment and Climate Change Canada — *North York, Canada*

- Delivered Tier 1/2 support for 200+ end users, cutting average resolution time by 50% with reusable diagnostic playbooks
- Automated account provisioning and software deployment via PowerShell and Python, reducing onboarding effort by 35%
- Deployed and hardened Windows workstations at scale using Autopilot, Intune, and Entra ID, standardizing setup across the team

ServiceNow Software Developer — Jan. 2025 - Aug. 2025
ServiceNow Developer Program — *North York, Canada*

- Shipped Client Scripts and UI Policies automating multi-step approval workflows, reducing repetitive manual steps and tightening process consistency
- Leveraged GlideForm and GlideUser APIs for dynamic validation and role-based UI behavior, ensuring API compliance and improving data quality
- Debugged client-side JavaScript to ensure reliable behavior across ServiceNow forms and workflows

Projects

Image Lab | *Python, FastAPI, PyTorch, OpenCV, Docker, CustomTkinter* — 2025

- Architected a multi-interface image processing platform (FastAPI backend, web frontend, desktop GUI) sharing a single processing core, supporting 13+ filters and ML-powered transformations
- Integrated U2-Net for background removal and transfer-learned ResNet/EfficientNet for auto-tagging; containerized with Docker and exposed a documented REST API with Pydantic schemas
- Built a plugin-pattern filter pipeline enabling new transformations in under 30 lines, maintaining unit test coverage with pytest

Chess Engine | *C++, MVC, Observer, Decorator,* `chrono` — 2025

- Built a fully compliant C++ chess engine with complete rule enforcement including castling, en passant, promotion, and check/checkmate detection
- Applied MVC, Observer, and Decorator patterns to cleanly decouple game logic, rendering, and state management
- Implemented minimax AI with multiple difficulty levels and per-player countdown timer via `std::chrono`; achieved 105% course grade

Technical Skills

Languages: C/C++, Python, Java, JavaScript/TypeScript, SQL, R
Frameworks: React, Node.js, FastAPI, Flask, PyAutoGUI, Playwright, Robot Framework
Libraries: Pandas, NumPy, SciPy, Matplotlib, TensorFlow, PyTorch, Pygame
Developer Tools: Git, Docker, Azure DevOps, GitLab, ServiceNow, SAP S/4 HANA