Joseph Garwood

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PROFILE SUMMARY

A dedicated Computer Programming student, currently gaining hands-on experience through a co-op position at Innovation, Science and Economic Development Canada (ISED) . Passionate about back-end development, problem-solving, and collaborating in team environments. Seeking new graduate opportunities starting September 2025.

TECHNICAL SKILLS

Languages: Java (JavaFX, Swing, JUnit), PHP, C, Python, SQL (MySQL, PostgreSQL, Oracle), HTML, JavaScript, CSS, C, Dart
Tools & Platforms: Linux (Debian, Arch), Git, Jira, GCC, Docker, OpenShift/Kubernetes, Azure, AWS, Jenkins, Eclipse, VS Code, PHPStorm, VMware, QEMU

PROFESSIONAL EXPERIENCE

Junior Software Developer (Co-op)   **Sept. 2024 - April 2025**
Innovation, Science and Economic Development Canada (ISED)
- Contributed to several key projects, including:
  - One-to-Many Chatbot Module: Designed and developed a module to enable the integration of multiple chatbots, streamlining support across ISED sites.
  - Drupal Commerce Integration: Worked on replacing legacy QuickPay solution, which was being sunset, with a custom solution built on Drupal Commerce, improving payment processing.
  - Access Control Enhancements: Developed a module for password-protecting individual nodes on ISED sites, enhancing security.
- Maintained and supported 157 ISED websites, addressing technical issues and ensuring consistent functionality.
- Deployed software to OpenShift cloud environments for development and testing.
- Gained hands-on experience with agile methodologies, participating in daily stand-ups, sprint reviews, and sprint retrospectives.

Electronics Repair Technician   **April 2023 - May 2024**
Mobile Klinik
- Diagnosed and repaired software, hardware and firmware issues on phones, laptop, desktops and consoles.
- Maintained proper documentation for every work order.

Automotive & Heavy Equipment Technician   **Sept. 2020 - March 2023**
- Diagnosed and repaired complex mechanical and electrical systems, applying analytical and problem-solving skills.

PROJECTS

Custom Unix Shell   **Dec. 2024 - Jan. 2025**
- Developed a custom command-line shell in C with core functionalities.
- Handles execution of built-in commands (cd, exit) and external commands with error handling and process management using fork(), execvp(), and waitpid().
- Stores and retrieves previously entered commands using the GNU readline library.
- Users can create session-specific aliases or define persistent aliases in the shell's configuration file.

Real-Time Threat and Network Monitor   **March 2025 - Present**
- Developed a Python-based system monitoring tool with a Flask UI, tracking SSH log alerts and network connections.
- Designed an intuitive dashboard with a dark theme and grid-based alert visualization for enhanced readability.
- Utilized Python (Flask) for backend logic, Jinja2 templating with HTML/CSS for the frontend, and system utilities like ss for network monitoring.

Food Waste Reduction Application   **June 2024 - Aug. 2024**
- Developed a Java web app enabling retailers to mark surplus food for discount or donation, triggering real-time email alerts (SMTP). Consumers and organizations claim items with role-specific privileges.
- Utilized Java with JSP pages for dynamically generated HTML, Microsoft Azure for the database, and Apache Tomcat for server deployment.

EDUCATION

Advanced Diploma, Computer Programming
Algonquin College, Ottawa, ON
3.9/4.0 CGPA
Dean's Honour List (Fall 2023, Winter 2024, Spring/Summer 2024)

CERTIFICATIONS

Secret Security Clearance   **Dec. 2024**
Government of Canada
- Granted for roles involving access to sensitive information; includes thorough background checks and adherence to strict confidentiality protocols.

Linux System Programming and Introduction to Buildroot   **Jan. 2025**
University of Colorado Boulder
- Topics covered: Linux system calls, process control, file I/O, multi-threading, cross-compiling for AArch64, and the GNU toolchain.

EXTRACURRICULARS

Hackathon Team Lead   **March 14 - 16 2025**
cuHacking
- Led a team of four participants to develop an app to connect people in Ottawa with nearby food and shelter resources in 36 hours.
- Utilized Python, Flask, SQLite and Leaflet to quickly prototype and deploy the application.
- Coordinated tasks, managed time, and ensured project delivery within the competition's time-frame.

Open Source Contribution   **March 25 2025**
Drupal WxT
- Made my first open source contribution by submitting a patch that modified a YAML configuration file in the Drupal WxT project.
- Familiarized myself with the open-source contribution process, including creating patches and issue tracking.
- Gained experience in community collaboration and open source software development workflows.