

Omar Abotahoon

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WORK EXPERIENCE

Automation & DevOps Engineer

Jan 2025 - Present

Canada's Centre of Excellence in Next Generation Networks | CENGN – Cloud Automation Team

Ottawa, ON

- Lead the design and development of a **Python Django-based** application that managed **600+** reservations made on data center hardware and equipment allocated to **over 40** clients, which increased the productivity of the customer solutions team.
- Built **Ansible automation playbooks** to automate the process of data collection and cataloguing of over **50 Cisco BareMetal servers**.
- Designed **Helm Charts** to deploy **Prometheus** exporters on **3 Kubernetes RKE2 clusters** that scrape server metrics and send them to **Grafana** monitoring dashboards, reducing service downtime by **20%** and creating Microsoft Teams alerting rules.

Software Developer

May 2024 – Dec 2024

Canadian Internet Registration Authority | CIRA – Cyber and DNS Team

Ottawa, ON

- Spearheaded the development of an **Endpoint Security and Detection service** by building and testing a **Java Spring Boot API microservice**, deploying the containerized application to **AWS ECS** using **Terraform**, and automating the process with **GitLab CI/CD** pipelines.
- Secured the Spring Boot microservice by using the Spring Security library and integrated **Keycloak** as an **OpenID Connect** client. Implemented custom Java authorization logic to parse **JWT tokens**, enabling role-based access control and enhancing overall security.
- Enhanced **Single Sign-On (SSO)** functionality by implementing **LDAP-to-Keycloak** user mappers, streamlining authentication processes and improving user experience with faster and more seamless logins.
- Added 8 different server-side and client-side enhancements as part of a major release for a cyber security DNS **SaaS** product using **TypeScript**, **Next.js** and **PostgreSQL**, which enhanced client-facing components, and addressed critical backend bugs, **fixing 16 failing unit tests**.

Software Developer Intern

Sep 2023 – Dec 2023

Field Effect Software – Cyber Range Development Team

Ottawa, ON

- Architected 6 fast **REST API endpoints** servicing data visualization components that allowed class instructors and users to view the class's performance metrics and statistics on the Cyber Range platform.
- Streamlined data retrieval by integrating new DTOs with DAOs, and ORMs in the **Java Spring Framework**, querying **100,000+** MySQL rows, **reducing query time by 27%** and improving overall API performance by **13%** through efficient CRUD operations.
- Created a **React state pattern system** with custom **hooks** and used **Jest** to write unit tests for the reports page achieving **92% code coverage**.
- Optimized an API GET endpoint by simplifying a multi-join SQL query, **reducing the response time from 35 seconds to 4 seconds**.

Cloud Infrastructure Engineer Intern

Jan 2022 - Aug 2022

Canada's Centre of Excellence in Next Generation Networks | CENGN – Cloud Infrastructure Team

Ottawa, ON

- Designed automated pipelines for deploying containerized applications (**Kubernetes**, **OpenStack**), maintaining **99.5% uptime** for cloud services.
- Reduced costs by **26%** by migrating **Python & JavaScript microservices** from local servers to **containerized** applications on **AWS** and **OpenShift**.

System Administrator Intern

May 2021 - Aug 2021

Agriculture and Agri-Food Canada | AAFC – High Performance Computing Team

Ottawa, ON

- Created a storage management system using **Bash scripting** serving **over 1000** scientists by allowing them to effectively store research data.
- Wrote 5 **automation** scripts and created complex **pipelines** to **automate** repetitive tasks like user creation and resource allocation, **reducing the time taken** by this process **by 1 hour** for each user.

SKILLS

- **Programming Languages** – Java, Python, TypeScript, JavaScript, C++, SQL, HTML, CSS
- **Frameworks** – Spring Boot, React, Next.js, Django, Flask, Angular, Node.js, Express.js, JUnit, Jest
- **Automation and Tools** – Git, CI/CD, Terraform, Docker, Kubernetes, Ansible, Unix/Linux, WSL, IntelliJ, MySQL, PostgreSQL, Shell Scripting, REST APIs, Maven,
- **Cloud Computing & DevOps** – AWS (IAM, VPC, ECS, RDS, EC2), Azure, Firebase, Google Cloud Functions

EDUCATION

University of Ottawa - Bachelor of Software Engineering - (3.9/4.0 GPA)

Sep 2020 – Dec 2024

- **Relevant Courses:** Data Structures & Algorithms, Object-Oriented Programming (OOP), Advanced Programming with C++, Databases, Operating Systems, Software Construction, Real Time Embedded Systems, Data Communication and Networking, Data Science

CERTIFICATIONS

- Microsoft Azure Fundamentals (AZ-900), CENGN Cloud System Specialist, Introduction to TensorFlow for ML

PROJECTS

IntelliStudy - [GitHub](#) | *Node.js, Firebase Auth, Firestore, Google Cloud, OpenAI API, React, Mantine UI*

- An AI powered Study **full-stack application** that can generate custom quizzes, allowing a user to test their knowledge using study note files.

Flight Delays Data Warehouse - [GitHub](#) | *Python, Pandas, PostgreSQL, Jupyter notebooks, Sklearn, Matplotlib, Looker Studio*

- Designed a data mart through the **ETL** process on over **1 million** records, performing data analytics and data mining to display delay trends.

LinkedIn Job Scraper - [GitHub](#) | *Python, Flask, Selenium, Docker, Pandas, NumPy, TypeScript*

- A job scraper that can look up **300+** LinkedIn job postings, scrape the posting details, clean the data and output it to a csv file.