Saad Makrod

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Education

University of Toronto Sept 2020 - Present

Honours Bachelor of Science - Computer Science; Minor in Economics; GPA: 3.77/4.0; Dean's List

Courses: *Design and Analysis of Data Structures, Algorithm Design and Analysis, Computability and Computational Complexity, Software Tools and Systems Programming, Operating Systems, Introduction to Machine Learning and Data Mining, Artificial Intelligence*

Skills Summary

- **Languages**: Python, JavaScript, TypeScript, C, C#, Java, PHP, HTML, CSS, SQL
- **Frameworks**: Express, Django, Spring Boot, .NET, React, MAMP, Bootstrap, Material UI
- **Tools**: Git, PostgreSQL, MySQL, SQLite, MongoDB, Neo4j, Docker, Postman, Heroku, Figma, Jira, Confluence
- **Soft Skills**: Time Management, Organization, Communication,cIndependent Learning, Teamwork

Experience

Guidewire Software | ***Developer Consultant*** May 2024 - Present

- Developing **automation tool** using **Java** to fix critical vulnerabilities in client applications and increase developer productivity

African Impact Initiative | ***Software Engineer*** June 2023 - May 2024

- Constructed **email service** using **Django** to allow HTML formatted emails to be sent to user base via simple API
- Led development team and improved developer experience through **GitHub Hooks**, **GitHub Pipelines**, and **ESLint**
- Architected and **built routing layer** for **React Redux** app capable of controlling user access and toggling navigation styles
- Leveraged **TypeScript** generics to develop service layer with **custom HTTP client** enabling communication with REST APIs

University of Toronto | ***Teaching Assistant*** Fall 2021, Fall 2022, Winter 2024

- Taught fundamentals of **testing**, **complexity**, **algorithms**, and **data processing** using **Python**, **Jupyter**, and **SQL**

EcoOnline Global | ***Software Developer*** Sept 2023 - Dec 2023

- Created **Datadog** pipeline to correctly classify info, debug, error, and warning status of logs for **traceability** purposes
- Developed **application monitoring library** using **Prometheus**, **C#**, and **.NET** providing services **telemetry abilities**
- Built **HTTP client factory** and **API clients** to create extensible interface when communicating with external applications
- Orchestrated load test using **Docker** and **Grafana k6** simulating **20,000 users** and **150,000 requests** via **Kafka** and **REST**

OMERS | ***Backend Developer*** Jan 2023 - April 2023

- Built **microservices** in **agile** environment using **Java**, **Spring Boot**, **Google Cloud Platform**, and **Apache Camel**
- Automated management of **semantic versioning** using **GitHub Pipelines** when publishing JARs to **Maven repositories**
- Developed **in-memory caching system** using **aspect-oriented programming** cutting run time of regression tests by **70%**
- Enhanced **validation framework** using **Spring Constraint Validator** reducing complexity of managing payload validations

University of Toronto T-CAIREM | ***Full Stack Developer*** May 2022 - Jan 2023

- Collaborated with stakeholders to efficiently deliver **Django** and **React** single-page app with **Redux** architecture
- Architected **PostgreSQL database schema** defining relations between users, resource entities, and access control
- Designed and built **content management system** equipped with **analytic dashboard** using **React** and **Chart.js**
- Implemented **authentication system** integrated with client-side **Google OAuth2** using **JavaScript**, **Python**, and **Axios**

Royal Bank of Canada | ***Cyber Security Analyst*** Jan 2022 - Apr 2022

- Implemented **LDAP authentication** system integrated with **RBC Azure Active Directory** using **Python**
- Developed **search API** using **Django** allowing users to build advanced queries on **Microsoft SQL** certificate database
- Constructed **X.509 certificate parser** using **Python** allowing users to upload and download certificates in **Django** app
- Built API on IBM Mainframe using **hashing algorithms** and **Rexx** cutting creation time of cryptographic keys by over **50%**

Microsoft | ***Product Marketing Intern*** July 2019 - Aug 2019

- Launched **internal inventory tracker** that smoothened inventory management for over **2000 employees** using **Microsoft Power Platform**, later **presented at the Microsoft Canada Annual General Meeting**