Saad Makrod

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EDUCATION

University of Toronto — Sept 2020 - Present
Honours Bachelor of Science - Computer Science; Minor in Economics; GPA: 3.74/4.0; 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, Ruby, 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, Independent Learning, Teamwork

EXPERIENCE

African Impact Initiative — Jun 2023 - Present
Software Engineer
- Leading development team to construct an entrepreneurship platform using **Django**, **React**, **TypeScript**, and **PostgreSQL**

University of Toronto — Fall 2021, Fall 2022, Winter 2024
Computer Science Teaching Assistant
- Teaching fundamentals of **testing**, **complexity**, **algorithms**, and **data processing** using **Python**, **Jupyter**, and **SQL**

EcoOnline Global — Sep 2023 - Dec 2023
Software Developer
- Developed **application monitoring library** using **Prometheus**, **C#**, and **.NET** providing services **telemetry abilities**
- Orchestrated load test using **Docker** and **Grafana k6** simulating **20,000 users** and **150,000 requests** via **Kafka** and **REST**
- Created **Datadog** pipeline to correctly classify info, debug, error, and warning status of logs for **traceability** purposes
- Built **HTTP client factory** and **API clients** to create extensible interface when communicating with external applications

OMERS — Jan 2023 - April 2023
Backend Developer
- Built **microservices** in **agile** environment using **Java**, **Spring Boot**, **Google Cloud Platform**, and **Apache Camel**
- 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
- Automated management of **semantic versioning** using **GitHub Pipelines** when publishing JARs to **Maven repositories**

University of Toronto T-CAIREM — May 2022 - Jan 2023
Full Stack Developer
- Collaborated with stakeholders to efficiently deliver **Django** and **React** single-page app with **Redux** architecture
- Designed and built **content management system** equipped with **analytic dashboard** using **React** and **Chart.js**
- Architected **PostgreSQL database schema** defining relations between users, resource entities, and access control
- Implemented **authentication system** integrated with client-side **Google OAuth2** using **JavaScript**, **Python**, and **Axios**

Royal Bank of Canada — Jan 2022 - Apr 2022
Cyber Security Analyst
- Constructed **X.509 certificate parser** using **Python** allowing users to upload and download certificates in **Django** app
- 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
- Built API on IBM Mainframe using **hashing algorithms** and **Rexx** cutting creation time of cryptographic keys by over **50%**

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