

# Saad Makrod

Portfolio: s-makrod.github.io

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## EDUCATION

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### University of Toronto

Sept 2020 - Present

*Honours Bachelor of Science - Computer Science; Minor in Economics; GPA: 3.74/4.0; Dean's List*

*Courses: Data Structures and Algorithms, Computability and Computational Complexity, Operating Systems*

## SKILLS SUMMARY

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- **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

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### African Impact Initiative

Jun 2023 - Present

*Software Engineer*

- Leading development team to construct an entrepreneurship platform using **Django**, **React**, **TypeScript**, and **PostgreSQL** in order to aid African entrepreneurs on their ventures

### 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 **Prometheus metric library** using **C#** and **.NET** providing **telemetry capabilities** to all microservices
- 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**