

# Saad Makrod

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Portfolio: s-makrod.github.io

Github: github.com/s-makrod

## EDUCATION

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### University of Toronto

Sep 2020 - Dec 2024

Honours Bachelors of Science - Computer Science, Minor in Economics, GPA: 3.77/4.0

*Affiliations: Computer and Mathematical Sciences Teaching Assistant, Management Teaching Assistant, 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

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- **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, Independent Learning, Teamwork

## EXPERIENCE

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### Guidewire Software | *Developer Consultant*

May 2024 - Aug 2024

- Architected enhancement to vulnerability detection system used in cloud transition projects
- Developed **automation tool** using Java to repair **10+ vulnerabilities** in client applications, **saving days** of manual effort
- Built **CLI app** using Python to transition property files to XML configuration files, **saving hours for consultants**

### African Impact Initiative | *Software Engineer*

Jun 2023 - May 2024

- Leveraged CI/CD tools, resulting in a **50% increase** in compliance with development standards
- Implemented **navigation layer** for React Redux app to auto-toggle between **4 user access levels** and improve security
- Engineered Django **email service** capable of delivering HTML emails across **10** distinct business cases
- Utilized TypeScript generics and Axios to develop customizable REST API client and integrate with **3** external APIs

### EcoOnline Global | *Software Developer*

Sep 2023 - Dec 2023

- Created Datadog pipeline to classify application logs across **5** unique statuses for **traceability** purposes
- Authored **telemetry library** using Prometheus, C#, and .NET, providing monitoring capabilities to **5+** microservices
- 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 - Apr 2023

- Worked in **agile setting** to build microservices using Spring Boot, Google Cloud Platform, and Apache Camel
- Automated management of **semantic versioning** using **GitLab Pipelines** when publishing JARs to Maven repositories
- Enhanced **validation framework** using **Spring Constraint Validator** to reduce complexity of verifying payloads
- Reduced regression tests run time by **70%** by creating **in-memory caching system** using **aspect-oriented programming**

### University of Toronto T-CAIREM | *Full Stack Developer*

May 2022 - Jan 2023

- Spearheaded effort to design and deliver AI educational resource distribution platform for **350+ members**
- Collaborated with **8 stakeholders** to define requirements and develop Django and React Redux single-page application
- Integrated client-side **Google OAuth2** using **Python**, and **Axios**, allowing for passwordless authentication
- Designed **CMS** equipped with **analytic dashboard** to centralize resource approval and track **7** metrics for data analysis

### Royal Bank of Canada | *Cyber Security Analyst*

Jan 2022 - Apr 2022

- Streamlined cryptographic key creation on IBM Mainframe using **Rexx**, cutting generation time by **50%**
- Constructed **X.509 certificate parser** using Python, allowing users to upload and download certificates
- Filtered **Microsoft SQL** database by using Django to develop API that executes advanced queries across **10+** fields
- Decreased application access time for **25+** employees by implementing **LDAP authentication** integrated with **Azure AD**

### Microsoft | *Product Marketing Intern*

Jul 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