

# MOHAMMED SAHL

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## SUMMARY

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- Experience with full-stack frameworks, server-side applications, scripting, open source and compilers
- JavaScript, TypeScript, Python, C/C++, Java, Rust; React/Redux, Sails/ExpressJS, Redis, Cypress

## EXPERIENCE

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### **Mamulife**

(Remote) Waterloo, ON

Salesforce Engineer

January 2021 - April 2021

- Revamped dataflow pipeline with Apache Nifi increasing reliability in data transfer from SFTP to Salesforce
- Programmed batch classes and triggers to process erroneous campaign and lead records

### **Major League Hacking**

(Remote) Waterloo, ON

Software Engineering Fellow

May 2020 - August 2020

- Built a RESTful backend server and testing framework for v2 of a JavaScript transpiler
- Developed a word processing document parser and contributed to a spreadsheet data toolkit
- Added E2E tests using Cypress helping validate UI and server requests for a documentation generator plugin

### **WorkMarket**

Toronto, ON

Quality Engineer

May 2019 - August 2019

- Sped build and release pipeline by **25x** by automating repetitive test cases using Espresso
- Developed software test plans for the Android platform increasing case coverage from **62%** to **87%**
- Reduced employee on-boarding times by **4x** by consolidating documentation into a single repository

### **Brand Lounge**

Dubai, UAE

Web Designer

June 2017 - August 2017

- Decreased website load times by 20% by introducing caching into the server of a website with **500+** pages

## PROJECTS

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### **Biquadris** - C++, Bash

- Programmed a two player Tetris clone with revamped block generation, level difficulty and player abilities
- Devised special actions, triggered by clearing multiple rows allowing user to negatively influence opponent
- Formulated level specific block generation using various software engineering design patterns

### **Babel-Repl** - JavaScript, React, SailsJS, Supertest

- Engineered a sandbox that transpiles code from ES6 to ES5 syntax with custom plugin and config support
- Introduced functionality to save and fork blobs, view AST with syntax highlighting and transpile history
- Implemented backend and testing infra using SailsJS's MVC framework

### **C-Compiler** - C++, Assembly, Bash

- Created a compiler that scans, parses and generates executable files from C source code
- Implemented loops, variable assignment, function definitions, conditional, arithmetic and return statements
- Uses LR(1) NFA parsing to analyse a context-free language and produce derivation for a given string

### **WordJS** - TypeScript, PowerShell

- Architected a word processing document library with **1.1k+** users, **190+** forks **136k+** weekly downloads
- Implemented logarithmic time file type detection by using trie data structure to process file signatures
- Developed a file-type agnostic XML handler to parse through text blocks for unzipped files

### **UtilBot** - Rust, PostgreSQL, diesel

- Built a full-stack discord bot that profiles users and serves bash-like instructions
- Added commands for server members to ask questions and get replies from users matching its characteristics

### **Auto-Repo-Struct** - React, TypeScript, TSX

- Authored a plugin to allow users to visualize, in tree form, repository structures on Github

## EDUCATION

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### **University of Waterloo**

Waterloo, ON

Honours Bachelor in Computer Science, BCS (Co-op)

September 2018 - April 2023