

# Danial Suhail

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## Skills

**Programming Languages:** TypeScript, JavaScript, Python, Java, C++, C#, C, Dart, Kotlin, HTML, CSS, SQL.

**Frameworks:** ReactJS, React Native, NextJS, Tailwind CSS, ExpressJS, JQuery, Flutter, Prisma, Java Swing, TensorFlow.

**Technologies:** AWS (S3, EC2, RDS), Git, REST, Docker, K8s, Postgres, MongoDB, NodeJS, OpenCV, Nginx, Terraform.

## Experience

**Upgraded** – Vancouver, BC.

May 2025 – Aug 2025

*Software Engineering Intern – Full Stack*

- Integrated a **ReactJS** CRM dashboard with Airtable **REST** APIs and **TanStack Query**, streamlining real-time CRUD grant updates. Engineered a **Firecrawl** scraper to aggregate **1k+** new grants while using **Jest** unit tests for validation.
- Created **20+** backend API endpoints in **Node.js** to support filtered search queries and payment flows with **Stripe**, implementing memoized caching to cut page load times by **80%** and eliminate duplicate report generation.

**WATonomous** – Waterloo, ON.

Jan 2025 – May 2025

*Robotics Software Developer*

- Implemented a **Pure Pursuit** controller with **A\*** pathfinding in **ROS 2** using **Python/C++**, fine-tuning lookahead distance & angular velocity for optimal trajectory tracking, improving navigation accuracy by **30%**, and containerized with **Docker**.
- Collaborated with **8+ members** on rover autonomy, refining costmap, and localization for **Nav2** environment modeling.

**Waterloo Midnight Sun** – Waterloo, ON.

Sept 2024 – Jan 2025

*Firmware Developer*

- Set up a development environment with **Vagrant** on x86, integrating custom **C** programs and **SCons** for execution.
- Optimized **FreeRTOS** task scheduling, handling task priorities, blocking APIs, and integrated a queue-based communication system improving task synchronization and reliability by **25%** with an **STM32** microcontroller.
- Engineered GPIO control logic and developed a multi-channel ADC driver for the ADS1115 using an **I2C** protocol.

## Projects

**Study Showdown** – [GitHub](#) | (NextJS, ReactJS, Tailwind CSS, NodeJS, Firebase, GCP OAuth 2.0) Aug 2024 – Sept 2024

**Gamified-Productivity Tracker Application & Browser Extension**

- Constructed a **NextJS** website to track productivity, grading study sessions by connecting **100+** users via leaderboards.
- Developed a Chrome Extension using **ReactJS** and **TypeScript**, integrating **Firebase** DB and **GCP OAuth 2.0** to sync website activity data with its backend, integrating an **Auth0** login system for secure real-time leaderboard rankings.

**Lexigo** – [GitHub](#) (\*) | (React Native, Tailwind CSS, TypeScript, Hugging Face API, TensorFlow, Expo.io) Oct 2023 – Nov 2023

**AR/AI-Language Learning Mobile Application**

- Designed **React Native** Front-End components with **Tailwind CSS** to supply multi-platform compatibility (**iOS, Android**).
- Executed NLP real-time language translation with **Hugging Face API** and object detection/identification by finetuning **TensorFlow**'s COCO-SSD ML model achieving an **85%** accuracy while ranking top **10** at **Uoft HTV 8**.

**RecipeLens** – [Website](#) | (Flutter, Dart, Android Studio, Edamam API, Spoonacular API)

Aug 2023 – Sept 2023

**Ingredient-to-Recipe Search Mobile Application**

- Pioneered dual API compatibility fetching **900+** results handling text-to-speech, HTTPS requests & SVG implementation.
- Spearheaded the mobile concept/layout through **Figma** while working on Front-End and Back-End integration providing a responsive modern minimalistic home page resulting in **Best UI/UX Design** out of **300+** participants.

## Education

**University of Waterloo – Waterloo, ON.**

Expected Graduation: April 2029

Bachelor of Applied Science (BASc), Computer Engineering

**Courses:** Computer Architecture (RISC-V), Data Structures & Algorithms (C++), OOP (C++), Electronic Circuits, Discrete Math.

**Awards:** Waterloo President's Scholarship (\$2000) & Ted Rogers Entrance Scholarship (\$2000)