

# Brashan Mohanakumar

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## Skills

<b>Languages</b>	Swift, TypeScript, JavaScript, Python, C++, C, HTML, CSS, GraphQL, SQL, Objective-C
<b>Mobile Technologies</b>	SwiftUI, UIKit, XCTest, SwiftData, AVFoundation, Core Image, Core ML, Core Data, Combine, RxSwift
<b>Web Technologies</b>	Angular, React.js, Express, Node.js, Redux, Jest, Cypress
<b>Python Libraries</b>	Pandas, NumPy, Selenium, Scikit-learn, Matplotlib, Seaborn
<b>Tools</b>	Git, Bitbucket, Firebase, MongoDB, AWS, Azure, Postman, Docker, Kubernetes, CocoaPods, XCode, VSCode

## Experience

### Full Stack Developer, TTD-Kicks | Remote

September 2022 – August 2023

- Led the end-to-end creation, development, and deployment of a high-yielding online marketplace, resulting in a revenue stream exceeding \$70,000 and a clientele exceeding 350 satisfied customers
- Crafted a responsive user interface with React and TypeScript, enhancing user engagement for a seamless purchasing experience
- Pioneered a robust back-end infrastructure using Node.js, Express, Mongoose, and MongoDB managing intricate inventory data
- Managed and maintained GraphQL layers to retrieve and update user interactions with MongoDB database
- Leveraged Cypress to conduct thorough End-to-End (E2E) testing to ensure a quality and reliable application

### Software Developer, TutorBright | Toronto, Ontario

Jan 2023 - April 2023

- Led the design and development of the resources page on the main web application leveraging MongoDB, Express, Angular and Node.js, benefiting a user base of over 21,000 active students and tutors
- Enabled seamless file retrieval, search, preview, & download functions through a dedicated API, switching to lazy loading from bulk loading, resulting in reduced search & retrieval latency compared to the previous system
- Optimized student program management by introducing a tailored programs tab within client profiles, complete with options for program viewing, editing, and removal
- Crafted comprehensive test suites incorporating functional, unit, and integration testing for both API endpoints and front-end, leveraging Jest, Cypress, and Postman

### Data Analyst, Ace Beverage Group Inc | Toronto, Ontario

May 2022 - August 2022

- Designed and implemented a company-wide solution to automate sales data pulls and data entries using Python, NumPy, Pandas, and Selenium resulting in significant time savings and increased accuracy
- Automated 15+ weekly tasks on a Raspberry Pi with Python scripts, saving employees 4-6 hours weekly through streamlined data management and database updates

## Projects

### Mount Progress App



- Created a CRUD iOS app with Swift, SwiftUI, & Firebase, enabling fitness tracking via photo uploads, weight logging, & personal notes
- Implemented secure user authentication with Firebase Auth, linking Firebase Storage & Cloud Firestore for photo & data management
- Implemented rigorous unit testing protocols with XCTest, leading to a notable 20% reduction in app crashes following release
- Successfully launched app on the Apple App Store with 50+ users and an overall customer satisfaction rating of 5/5 stars

### Abelese App



- Developed an iOS app leveraging Swift and SwiftUI for real-time translation of The Weeknd's song lyrics, amplifying global accessibility to the artist's music
- Populated over 100 songs by The Weeknd into a Cloud Firestore database and seamlessly linked it to the app, enabling real-time translation of his lyrics to 30+ languages using the LibreTranslate API
- Implemented the MVVM architectural pattern for enhanced code organization and maintainability

### Date Night



- Built an iOS app facilitating exploration of Toronto's local cafes, parks, beaches, and recreational spots, enhancing user experience with a dynamic look-around feature
- Utilized Swift, SwiftUI, & MapKit to seamlessly integrate interactive mapping, location-based services, and immersive 3D visualizations
- Leveraged the MVC architectural pattern to improve code organization and maintainability.

### SAPA (Sports Analytics Portfolio Application)



- Designed and implemented Python solutions to provide analytical data insights and visualization of NBA statistics
- Utilized NumPy and Pandas to perform data analysis on player and team statistics from an NBA API
- Visualized data using Seaborn and Matplotlib to communicate complex analytical findings on a Jupyter Notebook

## Education

### University of Waterloo

Waterloo, Ontario

Bachelor of Computer Science (Co-op)

September 2021 - April 2025

**Courses:** Data Structures, Algorithms, Object-Oriented Software Development, Operating Systems, Computer Organization & Design