

# Akhil Lal

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📍 Greater Seattle Area

🌐 akhil-lal

## Education

B.S. Computer Engineering

Cumulative GPA: 3.72

Minor: Physics

University of Washington - Bothell

📅 Sept 2019 – June 2023

## Experience

Software Development Engineer Intern

Amazon

📍 Seattle, WA

📅 June 2021 – Sept 2021

- Created a system that enters test findings and metrics from files submitted by device experience scientists and provides a **REST API** to retrieve this information
- Utilized cloud application services using **AWS Cloud Development Kit** through **TypeScript**
- Used **AWS Lambda**, due to its scalability and ability to trigger with AWS services, to compute file information and respond to API requests
- Integrated **Elasticsearch** to store and retrieve extracted information from submitted files, using its high document flexibility and low latency instance search
- This application works to increase speed of data entry and improve rate of learning in deep learning models

Software Development Intern

Moving Mountains Tutoring and Mentoring Service LLC

📍 Remote

📅 Aug 2020 – Nov 2020

- Developed full-stack iOS app components, such as FAQ and Chat Room pages, using **Swift** and the **iOS SDK**
- Implemented the Profile Creation/Login and Messaging features using **Firebase**, due to its cost less Cloud Messaging feature and extensive database
- Onboarded version control system for team to **Git**
- Managed dependencies and utilized third party libraries, such as Google Sign-In, using **CocoaPods**

## Skills

Programming Languages: Java C++ Python JavaScript TypeScript HTML CSS SQL Swift

Frameworks & Tools: Node.js React.js AJAX SQLite Microsoft SQL Server Git Elasticsearch

AWS Technologies: CDK Lambda S3 Elasticsearch Service API Gateway MTurk

## Projects

HuskyMaps

Java

- Created a platform that encompasses the University of Washington and the University District, and acts as a navigation system to and from any point in the area
- Implemented the primary route locator using **A\* search** which finds the shortest path to the user's destination
- Used **k-d trees** to store and make use of coordinates, which display as latitude and longitude
- Developed with **MapBox SDK** and **Heroku**

Basic Cryptocurrency using Blockchain

Python

- Created a blockchain where each block stores its **SHA-256** hash, parent hash, transactions, timestamp, and proof
- Hosted using **Flask** with commands for adding transactions, mining for new blocks, and viewing the current blockchain
- Users can mine for new blocks using its proof-of-work algorithm and when a new block is created, transactions clear, and its timestamp and previous block's hash are recorded
- Utilized a **Merkel Tree** to verify user addresses and block hashes within transactions