

# Ajay Pokharel

• Nashville, TN 37208

• (+1) 765-350-6805

• [ajaypokharel8@gmail.com](mailto:ajaypokharel8@gmail.com)

• [LinkedIn](#)

## EDUCATION

**B.A, Computer Science and Mathematics** – Fisk University, Nashville TN (December 2024)

- G.P.A – 3.9 – Recipient of the Ella Shepherd Moore Provost Scholarship
- Relevant Courses: Computer Architecture, Data Structures, Algorithm Design and Analysis, Operating System, Intro to Machine Learning, Programming Languages, Advanced Frontend Development

## TECH STACKS

- Languages: Python (Django, Numpy, Pytorch), JavaScript/TypeScript (React), Swift, Go, C, Obj-C, Java, SQL
- Tools: Git/GitHub, Postman, Jupyter, Docker, Terminal
- Other: Algorithms and Data Structures, System Design, Bash, Machine Learning, NLP

## WORK EXPERIENCE

**Software Engineering Intern – Apple**

May 2023 - Aug 2023

- Performed advanced data analytics with Python, aggregating and visualizing location datasets, and developed a new labeling algorithm, resulting in higher confidence score for location tracking across the Apple ecosystem
- Established a validation framework incorporating Maps API, effectively filtering out irrelevant location prediction, and achieving a 40% enhancement in prediction accuracy
- Developed a specialized internal app for iOS and watchOS with Swift and UIKit, empowering QE Engineers to assess ranging data between new hardware devices, facilitating notable feature enhancements on the respective hardware

**Software Engineering Intern – DataChat**

May 2022 - Aug 2022

- Contributed 90% of the code to the company's big internal project SQL Query Manager which now enables 100+ DataChat customers to create, modify and execute SQL queries within the DataChat platform
- Proposed and modified 70% of the initial project design and architecture (created by senior engineers) through UI mockups and technical documentation. This allowed the project to utilize the company's new architecture and internal system, resulting in code reusability and consistent user experience
- Learned and utilized several open-source tools as well as the company's internal stacks to enable the full-stack functionality: Python for the backend, Golang for REST APIs, and React, Redux to implement scalable frontend features

**Frontend Developer Intern – Capturely**

March 2022 - May 2022

- Collaborated closely with the Founder and CTO to architect a mobile app that leveraged peer-to-peer server communication for capturing images directly from a web browser
- Implemented WebRTC CameraX Integration on the Android platform, enabling seamless peer-to-peer video conferencing and image capturing functionalities
- Developed a web-based user interface to remotely control the mobile device's camera from a web browser using React

**Software Engineering Intern – Insight Workshop**

Feb 2021 - July 2021

- Developed and implemented restful API powering the mobile client for [Dhukka](#), using Django Rest Framework
- Contributed 80% of the programming content, 90 coding problems with 5 test cases for each problem, 100+ MCQs, and performed unit-testing and documentation for the company's internal project [Level Up](#) now used by 100+ students
- Contributed around 30% of code in API integration and developing the frontend page for Dhukka's Admin Portal, using frontend tools such as React with TypeScript and Bootstrap

## PASSION PROJECTS AND CONTRIBUTION

**Pokh, A Programming Language** – Creating a new programming language with syntax similar to Python + Go. Uses 'nearley.js' library to parse Grammar to AST (Abstract Syntax Tree) and produces JavaScript code to execute. See the source [on GitHub](#)

**SmartNote AI Engines** – Fine-tuning and utilizing pre-trained models (Whisper, BART), to build an AI-powered lecture notes application that can transcribe live lectures into student-friendly notes. See the source [on GitHub](#) (wip)

**Video Conference App** – Created and implemented a peer-to-peer full-stack video-conferencing [web application](#) leveraging the WebRTC framework in JavaScript, hosted on the Firebase platform. See the source [on GitHub](#) (wip)

**Getting Started with Python** – An Open Source learning hub for beginner Python learners or people with non-cs background, specialized and structured with relevant and best lectures, notes, and problem sets (work in progress). See the source [on GitHub](#)

## EXTRACURRICULAR EXPERIENCE

**Leading Member – Fisk Computer Science Club**

Aug 2022 – Present

- Conducted and hosted "Basic DSA for Tech Interviews" workshop to prepare over ~40 Fisk students for tech interviews
- Leading a team of four for an AI/ML project utilizing faster GPU for training ML models and deploying into robots

**Contestant – International Mathematics Olympiad (IMO)**

July 2017

- Led Nepal to its first-ever International Mathematics Olympiad in Rio de Janeiro, Brazil after being ranked as Top-4 from ~9,000 students in 5 national selection examinations

## RELEVANT ONLINE COURSES

- **Coursera:** Natural Language Processing with Classification and Vector Spaces
- **Google Cloud:** Introduction to Generative AI, Encoder-Decoder Architecture