

# Ajay Pokharel

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## EDUCATION

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

- G.P.A – 3.96 – 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, Django REST Framework, Numpy), JavaScript/TypeScript (React), Go, C, Java, ARM Assembly, SQL, HTML, CSS
- Tools: Git/GitHub, Postman, Docker, Terminal
- Other: Algorithms and Data Structures, System Design, Bash, Redux/Saga

## WORK EXPERIENCE

**Software Engineering Intern – Apple**

May 2023 - Aug 2023

- Conducted advanced data analytics, utilizing Python, to aggregate and visualize location datasets, resulting in significant enhancements to the accuracy and precision of maps' location information (backend)
- Utilized large language models and cutting-edge natural language processing techniques to optimize data retrieval and interpretation, resulting in more accurate and context-aware location information
- Employed machine learning algorithms to analyze and extract insights from vast amounts of location data, facilitating informed decision-making and driving continuous improvements in the location backend system

**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, and Sagas 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 (UI) 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 [IW Bootcamp](#) 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

## 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
- Developing lead at Fisk CS Club Discord Server and bots to organize and automate events and resources for the 100+ club members

**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

## 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](#)

**MMAStories** – Developed a full-stack MMA Stories blog platform enabling users and non-users to browse, sign in, post, and edit MMA stories using React.js, Redux, Express, Node.js, and MongoDB (MERN). See the source [on GitHub](#)

**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](#)

## RELEVANT ONLINE COURSES

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