# Adhvik Kanagala

adhvik.kanagala@gmail.com · (848) 256–9450 · addykan · Adhvik Kanagala

## Education

### School of Computer Science, Carnegie Mellon University, Class of 2024

*Bachelor of Science*
Computer Science
Concentration in Computer Systems

*Relevant Coursework:*

- Distributed Systems
- Database Systems
- Parallel Computer Architecture and Programming
- Algorithm Design and Analysis
- Computer Security
- Machine Learning
- Writing for the Professions

## TA

### Distributed Systems

*Taught in Go*

### Intro to Programming

*Taught in Python*

## Activities

### ScottyLabs

Tech Project Lead, ScottyMaps

## Skills

*Languages (ordered by experience):*
Python · Go · C++ · Standard ML · C · Erlang · Hack/PHP · Thrift · x86–64 · Typescript · OCaml · Dart · R · MATLAB

*Technologies:*
Git · Mercurial · Thrift · Flask · SQL · BigQuery · Unix · React · MongoDB · Flutter

*Other Skills:*
Teaching · Review

## Work Experience

**Duolingo** · Software Engineer Intern, Data Refinery — May 2023 – August 2023

- Built an automated monitoring tool to help data platform area track production datasets
- Eliminated active monitoring of dataset freshness by engineers
- Built tool to visualize dependency graph for datasets used by data science team
- Engineered new way to debug low-quality datasets by data science team
- Improved sustainability of data science area's 2023 growth objectives by upgrading tooling

**Meta** · Software Engineer Intern, WhatsApp Business Infra — May 2022 – August 2022

- Migrated a critical billing service in WhatsApp Business backend to serverless infrastructure, reducing future development timelines on this service from weeks to hours
- Eliminated dependency on chat infra team for deployment/maintenance of business services
- Developed onboarding documentation and starter tasks for new engineers

**Intro to Programming** · Head of Review & TA Management — Feb 2021 – May 2023

- Manage a team of 40+ TAs, run quality assurance, design training sessions, and provide feedback on TA performance
- Collaborate with professors to lead the review team, which provides actionable feedback on class notes, assessments, assignments, and all other student-facing material before release
- Develop practice materials, teach weekly group sessions of 5–100 students, tutor struggling students, grade assignments and assessments, hold office hours for 2+ hours per week
- Mentor 10 students each semester through a 1000–1500 line term project showcasing algorithmic complexity and visual design

## Projects

**SL Sports** · Developer — Summer 2021

- Used the MERN stack to digitize player management for Sri Lankan national athletics
- Built a desktop website in React for sports associations and national sports council to track and approve activities, payments, and competitive standings
- Deployed a mobile app with Flutter for players and coaches to track activities and payments

**Raft Consensus Algorithm** · 15-440 Distributed Systems — Fall 2022

- Referenced the original research paper to simulate the Raft consensus algorithm in Go
- Designed a DFA-style peer model that implements leader election and log replication

**Distributed Bitcoin Miner** · 15-440 Distributed Systems — Fall 2022

- Implemented the Live Sequence Protocol, a bespoke network protocol that extends UDP
- LSP uses a server/client model to support automatic packet resending, exponential backoff, ordered message delivery
- Used LSP to build a mock distributed bitcoin miner with round-robin task scheduling

**Bustub DBMS** · 15-445 Database Systems — Spring 2023

- Built core features of a partially complete database management system
- Implemented a buffer pool manager, B+ tree index, SQL query executor and optimizer, and transaction-based concurrency control system with multiple isolation levels