

Adhvik Kanagala

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Education

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

Bachelor of Science

Computer Science

Concentration in Computer Systems

School of Computer Science, Carnegie Mellon University, Class of 2025

Master of Science

Computer Science

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

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

Multi-User Dungeon (CMUD) • 15-440 Distributed Systems

Fall 2022

- Applied the actor model to develop an online text-based shell game using Go's RPC package
- Designed and implemented a scalable syncing strategy to replicate game state across distributed servers, while maintaining high availability and performance