

# Aditya Diwakar

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## EDUCATION

### Georgia Institute of Technology

Atlanta, GA

Dual B.S. in Computer Science & Mathematics, GPA: 3.95 / Major GPA: 4.0

Aug 2020 – Dec 2023

Dual Enrolled: 2019 – 2020 (Part-Time), 2020 – 2021 (Full-Time)

Concentrations: Systems & Architecture, Machine Learning; Probability & Statistics

Courses: Processor Design, Operating Systems, Real Analysis, Automata Theory, Systems & Networks, Computer

Architecture, Machine Learning, Stochastic Processes, Algorithm Design, Numerical Analysis, Combinatorics

## EXPERIENCE

### D.E. Shaw & Co. – Systems/Core Infra

New York, NY

Software Engineering Intern

May 2022 – Aug 2022

### Georgia Tech – College of Computing

Atlanta, GA

Lead Teaching Assistant for Algorithms Design & Analysis

Jan 2022 – Present

- Taught algorithm design, recurrences, graph theory, and complexity theory to 200+ students
- Ensured course and student success by organizing assignments/exams and delegating work for other TAs
- Scribed lecture notes with  $\text{\LaTeX}$  for students (see [github.com/adityaxdiwakar/cs3510-notes](https://github.com/adityaxdiwakar/cs3510-notes))
- Achieved 4.9/5 student rating through course management, grading orchestration, and transparency

### Loganov Data

Remote

Founder, Research Software Engineer

Jun 2020 – Jul 2021

- Forecasted natural gas demand volatility with 92% accuracy through probabilistic/regressive models
- Ingested weather vendor data 84% faster than industry standard with low-level parallel processing
- Provided low-latency data reliably to hundreds of end-users with RESTful & GraphQL APIs

### Code the Universe

Kansas City, KS

President, Board Member, Software Engineer

Apr 2020 – Jul 2020

- Provided learning resources to ~2,500 students while managing 30 direct reports
- Rebuilt registration system with in-house course registrars resulting in 100% increased registrations
- Reduced redundant administrative oversight by 50% by implementing robust policies and processes

### NetVPX Holdings LLC – Hosting

Boston, MA

Vice President of Tech Systems, Software Engineer

Oct 2018 – Jul 2019

- Led initiative developing custom hosting provisioning tools and additional product SKUs
- Ensured 99.97% site reliability by maintaining and signing SLA obligations
- Recruited technical staff ensuring same hour ticket response time and smooth onboardings

## PROJECTS

- **OCamlC-3:** Developed assembler for LC-3 assembly with custom lexing, parsing, and assembling using OCaml and Regex. Implemented CLI with outputs for lexed, parsed, and assembled states.
- **Open Exchange:** Implemented exchange suite with OCaml and NYSE FIX protocol supporting multiple order types; outperformed gold standard performance by profiling data structure designs with `ocamlprof`. Designed with versatility in mind using failsafe matching engines, cancel fairies, etc.
- **Flux:** Provided a developer friendly API to communicate with TD Ameritrade data provisioner using Go, Websockets, and a robust state machine. Built highly flexible translation units converting streamed message data into a requester/receiver data model. Achieved 100% tested code coverage.
- **Blueberry:** Exposed CQG data feed providing high-throughput low-latency top-level quote access. Consumed by endusers through various means such as RESTful or GraphQL APIs, or raw TCP/UDP sockets. Optimized for performance, capable of millions of daily message distributions.

## SKILLS SUMMARY

Languages: Go, Python, Java, C/C++, OCaml, Rust, SQL,  $\text{\LaTeX}$

Tools: Vim, Kubernetes, Docker, CI/CD, Sentry, Kafka, Nginx, Caddy

Infrastructure: Routing/Switching, Load Balancing, Proxying, Delivery Networks, Matching Engines