Aditya Goel

BS Computer Science Honours – Penultimate Year

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UBC Science Co-op

Proof Of Excellence

Proven academic and industrial proficiency in **algorithms and data structures, distributed systems, machine learning, and software development** – particularly in Java, C++, and Python. Prominent experiences include interning at **EA** (distributed systems team) and **Rivian** (automation team), serving as a computer science teaching assistant, and personal projects like **creating my own GPT** from scratch and contributing to **open-source** projects.

Education

University of British Columbia Sep 2021 – May 2026
Computer Science Honours, GPA: 4.33/4.33 Vancouver, BC, Canada

- Bachelor of Science in **Computer Science Honours** with Minor in Data Science (Co-op Program)
- Science Scholar + Dean's Honour List (Cumulative **GPA: 91.2%, 4.33/4.33**)
- Scholarships: Academic Excellence **$80,000** (2021-26) & **$4,000** (2022); Community Engagement **$10,000** (2024)
- Teaching Assistant: **Algorithms and Data Structures** (CPSC 221), Models of Computation (CPSC 121)

Work Experience

Electronic Arts (EA) May 2024 – Aug 2024
Software Engineering Intern – **Java, Spring, Kubernetes, Redis, AWS, OpenTelemetry** Vancouver, BC, Canada

- Designing and implementing a **distributed tracing** back-end service in **Spring** to trace **millions of requests per second** across microservices, to diagnose functional & performance issues in a **distributed system** architecture.
- Updating and maintaining **low-latency APIs** for services like player-server connection, leaderboards and statistics.
- Ensuring extensive **security, scalability, and robustness** by running thorough load testing - simulating real usage.

Rivian Automotive Sep 2023 – Apr 2024
Software Engineering Intern – **Python, OpenCV, GraphQL, Kubernetes, AWS, Docker** Vancouver, BC, Canada

- Developed a **feature-based image recognition** script using the ORB algorithm, to detect UI features in Rivian's mobile app and compare them to their expected state – helping **automatically catch bugs** during development.
- Deployed the script to Rivian's daily automation, **reducing runtime by 900%**, and **saving $100,000 per year**.
- Created and maintained GitLab **CI/CD pipelines** for scheduled application builds and API & UI automation tests.

UBC Computer Science Department Jan 2023 – May 2024
Undergraduate Teaching Assistant – **C++** Vancouver, BC, Canada

- Scored **97%** in the **Algorithms and Data Structures** class to become a TA and instructed 300+ students.
- Coded **programming assessments** along with their grading tests in **C++**, these were mini-projects for students.
- Helped conceptually and practically teach topics like: space/time complexity, sorting, graphs, trees, hashing, search.
- Previously taught **Models of Computation** – digital circuits, digital/predicate logic, control systems, DFA, proofs.

Projects

myGPT (Python, PyTorch) *github.com/agoel25/myGPT* May 2024 – Present

- **My implementation of a GPT** (generative pretrained transformer) model, identical to ChatGPT **from scratch**.
- Implemented several **GPU/CUDA optimization** techniques like kernel fusion, mixed precision, and distributed batched processing to **reduce training time by 10 times** compared to a vanilla implementation in PyTorch.
- The model **runs 100% locally** and can be **trained or fine-tuned on any dataset**. It includes MLPs, self-attention, layer normalization, and residual pathways – achieving a cross entropy **loss of 2.9** (same as ChatGPT-2).

Kubernetes – Open Source (Go) *github.com/kubernetes* May 2024 – Present

- Working on bugfixes related to networking timeouts and failures as a part of the **network** special interest group.

Flight Scheduling Software (Java, JSON) *github.com/agoel25/airline-scheduling-system* Jun 2022 – Jan 2023

- Developed a **full-stack** flight scheduling desktop application using **Java** with **data-perseverance** using JSON.
- Successfully engineered a modified **graph traversal** algorithm to **minimize planes** needed to schedule all flights.

Technical Skills

Languages: **C++, C, Java, Python, R,** Ruby, Kotlin, Go, GraphQL, SQL, Assembly, Bash

Development Tools: PyTorch, Kubernetes, Docker, AWS, Google Cloud, NoSQL, Redis, Git, Linux

Certificates: **Stanford:** Machine Learning (By Andrew Ng.) – Deep Learning, Neural Networks, SVMs
University of Pennsylvania: Software Development, Data Structures, Algorithmic Design

Leadership and Interests

VP Project Development - Entrepreneurship UBC (2023), Competitive Tennis (2015-21), Swimming, Algorithms/Patterns