Brahmnoor Chawla

chawla.brahmnoor@gmail.com | https://brahmnoor.me | Brahmnoor | +1-609-510-0911
Brahmnoor | Devpost: Brahmnoor | Codeforces: Brahmnoor

Education

Drexel University, *Philadelphia, PA* — *June 2021*
B.S. in Computer Science (Honors) — GPA: 4.00/4.00

Princeton University, *Princeton, NJ* — *January 2019 - June 2019*
Exchange - B.S in Computer Science — GPA: 4.00/4.00

Selected coursework (G: Graduate Level, T : Taught the course as a TA) :
Advanced Algorithms (G), Theory of Computation (G), Computer Networks, Data Structures, Systems Programming, Software Architecture, Functional Programming, Systems Architecture, Operating Systems, Machine Learning (T)

Work Experience

Google — *June 2020 - September 2020*
Software Engineering Intern - Machine Intelligence, Google Photos — Mountain View, CA

- Designed an end-to-end system to select **the most interesting segments from long user videos**, and displaying just these clips (instead of the entire video) in N-years ago memories.
- Implemented data pipelines for Action Moments and Photobooth ML models to pick interesting clips, resulting in **16% increased user coverage and engagement** in early demos.
- **Built infrastructure for Suggestor nodes** from ground up using C++ to filter out the interesting clips, and **designed new RPCs in Java** to pass this information to the web and mobile clients.

Nuro — *September 2020 - January 2021*
Software Engineering Intern - Infrastructure, Autonomy Tools — Mountain View, CA

- Designed a **gRPC** service to directly access **Postgres table** for log search, using **Kubernetes and Python**, resulting in 12% increase in the overall performance of other cronjobs.
- Implemented **infrastructure to switch from offline to online processing** of car logs, in order to create a real-time world state in the autonomous vehicle itself, **reducing processing time of these logs by a day.**

Google — *June 2019 - September 2019*
Software Engineering Intern - YouTube Ads — Mountain View, CA

- Built an internal dashboard for YouTube's ads team to track data backfill tasks for ads targeting, which **reduced time from data generation to running the machine learning models by 12 hours**.
- Consolidated the user data generation & profile pipeline by adding a new, automatically invoked, testing phase which **reduced redundant tasks and decreased processing time from 2 hours to 45 minutes**.
- Worked with **C++** & **Spanner** for the data pipeline, and with **Typescript** & **Angular** for the internal dashboard.

Princeton University — *March 2019 - May 2019*
Research Assistant at Human-Computer Interaction Lab — Princeton, NJ

Research: Understanding South African Mobile Users' Perceptions of Privacy and Current Behaviors on Facebook and WhatsApp. ... **Chawla** et. al. *Proceedings of the 29th USENIX Security Symposium.* Boston, MA, August 2020.

Selected Projects

- **loveLang** – DragonHacks Spring 2020 Winner - A **Google Chrome extension** that smartly replaces words on the websites you browse with words from a new language that you want to learn - so that you learn a new language as you browse the web. Built using **Google Translate API, Javascript, Express and MongoDB**.
- **Highlight Reel** – HackRU Spring 2019 Winner - Webapp that uses a **peak signal detection** algorithm to automatically pick out highlight moments in online livestreams based on the time-series of chat frequencies. Built using **Python & Javascript** and designed with **Material UI.**
- **OnlineChess** – An online chess platform, where two players can play chess in real-time, with move validity checks. Built using **React, Socket.io, & Express.**

Awards & Recognition

- **Competitive Programming Team** at Drexel & teaching algorithms at DrexelADS — *June 2020*
- **Dean's Honors List '17, '18, '19, '20** & Recipient of **HKU Alumni Prize 2019** — *May 2020*
- **ACM-ICPC**, Honourable Mention - Asia Regionals (China-Hong Kong) — *October 2018*
- **International Olympiad in Informatics** - Ranked 11th - India Region — *January 2017*
- **CS Research Grant by Government of India**, Kishore Vaigyanik Protsahan Yojana — *2017*