Aryan **Dhar**

Full Stack Developer · ML Engineer · B.Sc. (Major in Computer Science)
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Summary

Lester B. Pearson Scholar (full-ride given to students for distinguished academic and extracurricular achievement) pursuing a Honors B.Sc. with a specialist in Computer Science (graduating 2024) at University of Toronto. I am a developer who is able to build from concept to layout and programming to UX. I am experienced in writing testable code and have learned best practices in CD and CI. I am also experienced with implementing and analyzing machine learning techniques and have used neural nets and other probabilistic methods in the context of self-driving cars, few shot learning, and image recognition.

Work Experience

Cerebras Systems
Toronto, ON

DevInfra Co-Op Intern / ML Ops Engineer — *May. 2022 - Present*

- Using Jenkins, Git, and various automation tools to optimize the CI/CD pipeline.
- Working on tools to automatically triage failures in test cases, and optimize automatic testing in order to save the company time and money.

University of Toronto, under Professor Rahul Gopalkrishnan
Toronto, ON

Machine Learning Researcher — *Jan. 2022 - Present*

- Using tensorflow and various Python libraries to visualize and deconstruct how BIOBert performs various NLP tasks on biomedical corpora.
- Experimenting and testing various GPT models on GPU clusters to compare performance of zero-shot learning on NLP tasks in the biomedical domain against the BIOBert standard.

Bank of Canada + University of Toronto
Toronto, ON

Web Development and Data Visualization Research Assistant — *Sep. 2019 - December 2021*

- Used Python to scrape and derive insights from news segments, Federal Reserve Data, and stock market data. Used PRAAT and R to analyze and extract information from audio/video clips of testimonies.
- Developed algorithms to create accurate timed transcripts of Federal Reserve Data with direction from my professor and data analysts at the Bank of Canada. Developed algorithms to identify and classify images.

Neat
Toronto, ON

Full Stack Developer — *May. 2021 - Aug. 2021*

- Used Electron, React, Node, and Next frameworks along with typescript to create menubar apps and websites. Also used technologies such as Firebase. Vercel, Tailwind, and the Github and Slack APIs.
- Implemented CI/CD pipeline including but not limited to notarizing, code-signing, and automated deploying of releases to allow for over-the-air updates. Implemented updates using auto-updater.
- Spearheaded features such as: in-app emoticon and comment reactions to allow the user to better interact with the notifications, in-app Easter egg Snake Game, and keyboard shortcuts.

University of Toronto
Toronto, ON

Teaching Assistant — *Dec. 2020 - Apr. 2021*

- Held Office hours and provided support to professors of CSC165: Mathematical Reasoning and Expression in Computer Science.

Education

University of Toronto
Toronto, ON

Honors B.Sc. in Computer Science and Economics — *Sep. 2019 - Exp. Apr. 2023*

- Specialist in Computer Science, Minor in Economics. Cumulative GPA: 3.98/4.00
- Lester B. Pearson Full Scholarship (for academic merit, creativity, leadership, social impact)
- Coursework: Software Design (Java) (A+); Computer Organization (MIPS Assembly/Verilog) (A+); Theory of Computation (Algorithm complexity/Languages/Proofs) (A+); Databases (SQL/JDBC) (A+); Data Structures and Analysis (A); Software Tools and Systems Programming (Bash+C) (A+); ML (A+); Advanced Algorithms (A+); Neural Nets (A+); Probabilistic Models (A+);

Skills

Programming	Java, Python, C, HTML/CSS, Typescript, Django, React, Node, Electron, Pytorch, Tensorflow
DevOps	Bash scripting
Databases	Firebase, PostgreSQL, JDBC
Tools	Vercel, Git, Notion
Languages	English, French, Hindi

Projects, Publications & Courses

Driverless Cars

https://github.com/dhararya/MusicalGIF

- For my capstone design project, under a course taught by Dr. Raquel Urtasun, we implemented a car detector using LIDAR data. We also implemented methods used to track objects across time and make probabilistic predictions of the trajectory five seconds into the future.

Musical GIF

https://github.com/dhararya/MusicalGIF

- Takes a custom caption and returns an appropriate gif with a random mp3 from the sound board. Users can generate a shareable link for their creation. Built using React, Next, Firebase, and the GIPHY API.

Inspire AR

https://github.com/dhararya/InspireAR

- Built a website using the Python Django Framework from ground up. Used Unity to integrate Echo AR simulations into a phone app linked with the website. Won the Sponsor Challenge at Hack the 6ix 2020.

Doodle Jump

https://github.com/dhararya/DoodleJumpMIPSAssembly

- Built the Doodle Jump Game using MIPS Assembly.

Automatic Sentence Simplification

Mumbai University

NLP Researcher

Aug. 2018 - Aug. 2019

- Created a model and algorithm to automatically simplify complex sentences using the NLTK toolkit and Python with the goal of making text more penetrable to those with dyslexia. This involved changing items separated by commas to bullet point lists, breaking down complex sentences to short, simple sentences, changing layout and presentation, creating a scoring model to decide if a sentence could be split etc.

Other Significant Commitments

AWA

Lima, Peru

NGO Founder

May. 2020 - PRESENT

- Built fog catchers in the female-led community of Ihuanco, Peru to combat water shortages and assist with the agricultural needs of the community. We continue to fundraise and work with organizations and people to solve challenges related to water scarcity and inaccessibility.