Dav Vrat Chadha

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Education

UNIVERSITY OF TORONTO

Bachelor of Applied Science in Engineering Science

Sep 2020 – Apr 2025

Toronto, ON, Canada

- Machine Intelligence Major
- PEY Co-op Student

Relevant Coursework

UNDERGRADUATE

Data Structures & Algorithms
Digital & Computer Systems
Linear Algebra
Introduction to Machine Learning
Foundations of Computing

Skills & Tools

PROGRAMMING

Python • NumPy • Sklearn •Keras •Objax •Tensorflow •Jax •PyTorch • Pandas • CircuitPython • C/C++ • Java • HTML • CSS • JavaScript • MySQL • MATLAB • Git • Verilog • ARM Assembly

Awards & Honours

DEAN'S HONOUR LIST

University of Toronto

SKULEPEDIA HACKATHON – 2ND PLACE

University of Toronto

Researched and wrote an article about Skule history with a team interested in protecting and preserving the history and old traditions of UofT engineering.

Extra-Curricular

COMPUTER TECHNICIAN

May 2022 – July 2022

- Helped senior citizens in my neighborhood troubleshoot and fix software and hardware issues in their computers.
- Made the process of getting computers fixed easier for them by removing the technological barrier between them and the customer service executive.
- Helped senior citizens learn about new useful features in their computers related to accessibility needs.

PYTHON TUTOR

Jan 2021 - Apr 2022

- Tutored a first-year Civil engineering student about the basics of Python.
- Concepts taught ranged from simple list manipulations to using NumPy and Pandas library, based on course requirements.

Projects

WALLSTREETBOTS

Sept 2022 - Current

- Developer in UTMIST: University of Toronto Machine Intelligence Student Team, working on WallStreetBots.
- Web platform to deploy and monitor **machine learning** algorithms like **CNN**, **LSTM**, and **SVM**s, for stock and cryptocurrency trading.
- Designing **NLP** sentiment indicators and **deep learning models** to predict the cryptocurrency price.
- Previous models achieved 66.2% accuracy for trend prediction on next-day opening prices, and 61.8% accuracy on next-day closing prices for stocks.

WEB DEVELOPMENT - davvratchadha.com

Aug 2022

- Designed my portfolio website.
- Developed an easy and simple-to-use **UX design** in **HTML5**, **CSS**, and **JavaScript**.

PARALLELOOM - youtube.com/watch?v=wu3rYk73sKk

Jan 2022 – Apr 2022

- Led a team of 6 to design and build a custom bamboo-weaving loom used to make handicraft items, to aid a community of elderly in Thailand.
- Designed the 3D model in **Fusion360**, which led to the fast and easy development of the project.
- Developed a program in **CircuitPython** to run the prototype with **Raspberry Pi** and **embedded circuits**.

SEAM CARVER

Mar 2021

- Developed a program in **C** to resize images using the technique of liquid rescaling.
- Utilized an energy function with **dynamic programming** to eliminate the vertical seams and decrease the size of an image.
- Resized images had minimal distortion compared to other image scaling methods and the program avoided the removal of important content.

TEXT AUTOCOMPLETER

Feb 2021

- Created a fast predictive text application in **C** that auto-completed users' words.
- Applied sorting algorithms by weight with binary search to output the predicted word from a given file of terms.
- Program had O(nlog(n)) complexity

SEMANTIC SIMILARITY - SYNONYM TESTER

Dec 2020

- Developed a **Python** program that used pieces of literature to create semantic descriptors.
- Applied similarity function on the input words and the semantic descriptors to return the synonym of the input.
- Returned the results with a 73.1% accuracy rate.

Miscellaneous

VOLUNTEER - GBF COMMUNITY SERVICES

Oct 2019 - Aug 2020 Grimsby, ON, Canada

- Streamlined the process of collecting, sorting, and distributing the donations into their respective sections.
- Led to a decrease in processing time and an increase in the work efficiency at the facility.