

Arnav Nagzirkar

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SUMMARY

Enthusiastic and ambitious Computer Science, Statistics and Economics student with a strong foundation in software development, machine learning, web development, cloud computing, game development and algorithmic problem solving, eager to apply theoretical knowledge and programming skills in a professional tech environment.

EDUCATION

University of Toronto

Sep. 2022 – Dec. 2026

Honours Bachelor of Science in Computer Science, Statistics and Economics

Relevant Courses: CSC263: Data Structures and Algorithms, CSC207: Software Design, CSC209: Systems Programming, CSC258: Computer Organization, STA258: Statistics with Applied Probability, STA256 & STA260: Probability and Statistics I and II. STA302: Regression Analysis & STA305: Design and Analysis of Experiments.

Central Peel Secondary School

Graduated June, 2022

AP Gold National Scholar with Distinction

PROJECTS

LocateLot | *Google Maps API, Clean Architecture, Java, WebView*

May 2024 – Present

- Developed a location-based application to find the nearest parking spots in Toronto, utilizing Google Maps API
- Implemented various filters based on public green space data to provide personalized parking recommendations
- Designed the app using clean architecture principles for scalability and maintainability

Bop App | *Typescript, Machine Learning, React Native, Node.js, AI*

September 2024 – Present

- Created a Tinder-style music discovery app that allows users to swipe on songs
- Built a machine learning model to generate personalized music profiles based on user preferences
- Developed both frontend and backend for seamless interaction and music recommendations

StocksNow | *Machine Learning, Python, Flask, pandas, yfinance*

September 2024 – Present

- Developed a platform to provide financial analysis and recommendations for any traded ticker using machine learning models
- Implemented buy, sell, and quantitative finance strategies based on market data
- Built a web interface with Flask to allow users to interact with financial data and insights

Personal Website | *Javascript, HTML, CSS, MongoDB, AWS, Github*

January 2025 – Present

- Developing a personal website which showcases projects, and portfolio
- Implementing a blogging feature, adhering to SEO principles to generate website traffic
- Built a web interface with Flask to allow users to interact with financial data and insights

Custom Shell | *C, Socket Programming, Signal Handling, Process Control*

January 2025 – Present

- Implemented a custom shell in C, including support for signal handling, pipes, and multi-command execution
- Enhanced functionality to manipulate .WAV files within the shell environment
- Utilized socket programming to create a multiplayer text-based game within the shell, featuring automatic queuing of opponents

Sokoban Game | *RISC-V Assembly, CPULator, Game Development*

September 2024 – December 2024

- Built a Sokoban puzzle game in RISC-V assembly, utilizing CPULator for development and testing
- Created dynamic, random grid generation and implemented player movement, box pushing, and target placement
- Developed a user interface to display game state and handle player input, including features for restarting and success messages

Treemap Visualizer Algorithm | *Python, CSV, Data Processing*

May 2023 – August 2023

- Developed a Python-based algorithm to generate interactive treemaps from CSV file inputs, visualizing hierarchical data

- Implemented data parsing, validation, and error handling to ensure accurate and efficient data processing
- Integrated Matplotlib and Plotly to render scalable, real-time visualizations of nested categories

Allure | *Node.js, Discord API*

November 2020 – Present

- Developing a utility Discord bot using Node.js to manage server functions and improve user engagement
- Implemented moderation tools and fun commands to foster community interaction and to enhance server management
- Creating a chat bot feature by implementing AI and NLP so that server members can have a chat with the bot within the server.

Realm Clash | *Roblox, Lua, Pathfinding, AI*

February 2024 – Present

- Developed a multiplayer action game on Roblox with advanced NPC AI and pathfinding mechanics
- Implemented systems for bonus item drops, player inventories, in-game shopping, and a player trading system
- Optimized game logic to enhance the user experience and engagement within the game world

Survival Simulator | *Roblox, Lua, Multiplayer*

October 2020 – Present

- Created a multiplayer swordfighting game on Roblox where players earn time by defeating opponents
- Designed systems for bonus drops, player inventories, and an in-game shop to enhance gameplay
- Worked on optimizing multiplayer functionality for smooth gameplay in a competitive environment

EXPERIENCE

Data Retention Specialist Intern

June 2021 – August 2021

Bitts Testing Services

Mississauga, ON

- Managed and maintained data retention systems, customers' records in a database.
- Dealt with requests of data access, data analysis and file corruption
- Worked with managers and directors to prepare financial reports which used the data I was responsible for

Inventory Control Associate (Summer Student)

June 2022 – August 2022

MAD Elevator

Mississauga, ON

- Managed inventory databases to ensure accuracy and minimize discrepancies.
- Conducted regular physical counts and reconciled with system data.
- Collaborated with logistics teams to streamline processes and reduce costs.

Board of Directors - First Year Representative

September 2022 – August 2023

University of Toronto Mississauga Students' Union (UTMSU)

Mississauga, ON

- Elected to represent over 15,000 undergraduate students at the Annual General Meeting and various executive and committee meetings.
- Collaborated with executive members to organize campus-wide events, academic workshops, and advocacy campaigns.
- Actively engaged with students to gather feedback, address concerns, and strengthen student-union relations.

Private Tutor – Programming & Mathematics

January 2023 – Present

Brampton, ON

- Delivered personalized one-on-one tutoring to high school and early university students in mathematics and programming (Java, Python).
- Designed and implemented customized lesson plans based on individual learning needs, with a focus on concept mastery and real-world applications.
- Taught advanced topics including object-oriented programming, recursion, functions, control structures, and high school algebra and calculus.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R, Typescript, Lua

Frameworks: React, Node.js, Flask, JUnit, WordPress, Material-UI, FastAPI

Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, AWS, Porkbun, MongoDB, Postgresql

Libraries: pandas, NumPy, Matplotlib, Google Maps API

Certifications: AWS Certified Cloud Practitioner, AWS Certified AI Practitioner