Ishpreet Nagi

YEAR 4 COMPUTER SCIENCE STUDENT

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EDUCATION

McMaster University — **Hamilton, ON, Canada**
B.A.Sc. in Computer Science (Co-op) — *Sept. 2021 - Apr. 2026*

- **Relevant Coursework:** Data Structures and Algorithms, Algorithms and Software Design, Databases, Computer Networks and Security, Human-Computer Interfaces, Algorithms and Complexity, Principles of Programming Languages, Intro to Data Mining

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, C, HTML/CSS, Bash, SQL, Haskell, C++, C#
Development Tools: GitHub, VS Code, Eclipse, Jupyter, Unity, MATLAB, DBeaver
Frameworks: Git, Tensorflow, PyTorch, Tailwind CSS, LaTeX, React, Astro, Next.js, XGBoost, Optuna

EXPERIENCE

Software Engineer and Research Coordinator (Co-op) — **Waterloo, ON, Canada**
Healthcare Systems Research & Analysis Inc. — *June 2024 - Present*

- Led a team of four developers to create, train, and optimize advanced machine learning models, such as Random Forest Regression and Artificial Neural Networks, leveraging techniques like cross-validation and iterative imputing to enhance performance by 50%.
- Managed a team of eight developers in an Agile environment, scheduling meetings, providing daily progress updates to leadership, and guiding the team on technical questions and project processes, ensuring smooth collaboration and continuous development.
- Performed automated unit testing to identify and implement bug fixes, improving software quality and reliability by 30%.
- Maintained version control using Git and repository management on GitHub, compiling progress into reports for leadership.
- ***Skills:*** *Python, PyTorch, TensorFlow, scikit-learn, Pandas, XGBoost, Git, GitHub, Microsoft Excel*

Machine Learning Analyst and Research Assistant (Volunteer) — **Hamilton, ON, Canada**
McMaster University: Department of Computing and Software — *May 2023 - Present*

- Facilitated the testing and training of various complex LSTM neural network models in MATLAB, utilizing diverse real-world datasets for enhanced performance and applicability.
- Supported optimizing the 'E LSTM' model, reducing variable intake and improving efficiency and speed by 30%.
- Conducted the hyper-parameter tuning of a complex Genetic Algorithm utilizing Optuna, improving effectiveness by 20%.
- ***Skills:*** *Python, MATLAB, PyTorch, Pandas, Tensorflow, Optuna*

PROJECTS

McMaster Room Booking Portal
github.com/IshpreetNagi/McMaster-Room-Booking-Portal — *Dec. 2023*

- Developed a prototype front-end interface for a web-based room booking portal, integrating rooms across McMaster University.
- Collaborated with a team of four developers, using Git for version control and repository management on GitHub to streamline communication and workflow.
- Built an interactive time booking tool, utilizing Tailwind CSS to promote structured web design elements, boosting application ease-of-use by 20%.
- ***Skills:*** *JavaScript, TypeScript, CSS, Git, GitHub. Vercel, Figma, Tailwind CSS*

Connect4
github.com/IshpreetNagi/Connect4 — *Oct. 2023*

- Developed a Connect4 game in Java with single-player and two-player local co-op modes, utilizing GitHub for public distribution.
- Developed an AI system with 100% accuracy that strategically responds to player moves to ensure victory, enhancing the single-player experience.
- Utilized critical object-oriented programming principles, including encapsulation, inheritance, and polymorphism, to enhance code efficiency by over 50%.
- ***Skills:*** *Java, Git, GitHub*

Tempestuous Turrets
github.com/IshpreetNagi/Tempestuous-Turrets — *Sept. 2022*

- Collaborated with two developers to create a point-and-click four-player local co-op game.
- Assisting development using C# in Unity, implementing over 30% of the interactive physics and leading the original asset design and creation.
- Deployed a web version of the program on Microsoft Azure via GitHub for a fully virtual experience accessible online
- Compiled the program into a downloadable executable file using Unity for trouble-free distribution via GitHub.
- ***Skills:*** *C#, Unity, Git, GitHub, Microsoft Azure, Adobe Photoshop, Microsoft Paint*