JOYI XUE

📞 +1 (647) 853 7988 | ✉ joyi.xue@mail.utoronto.ca | in linkedin.com/in/joyi-x | ○ github.com/jjyoi

SKILLS

Languages: Python, C++, Java, R, JavaScript, HTML5/CSS, SQL
Libraries/Frameworks: Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, TensorFlow, PyTorch, Keras, Pillow, ResNet-18, OpenCV, MediaPipe, PyAudio, Cohere, WhisperAI
Developer Tools: Git, GitHub, VS Code, Visual Studio, PyCharm, IntelliJ

EDUCATION

University of Toronto   Toronto, ON
Honours Bachelor of Science – Computer Science (4.0 GPA)   *Sep. 2024 – Apr. 2028*
- Bayer Canada Scholarship + Howard Ferguson Scholarship
- Additional offers: Schulich Leader Scholarship @ Western University ($100,000), Schulich Leader Scholarship @ McMaster University ($100,000)

PROJECTS

</> **CNNs for Species Identification** | *Python, PyTorch, TensorFlow, Keras, Matplotlib, Pillow, ResNet-18*
- Achieved over **90% accuracy** in species classification by building and fine-tuning two AI models (**ResNet-18 transfer learning** and custom convolutional neural network (**CNN**)) using Python, TensorFlow, and PyTorch
- Boosted overall classification accuracy by **10%** using data augmentation
- Awarded the **AI Excellence Award** from **170 teams and 450+ participants** for best use of AI in project
- Optimized analysis of **13,000+ images** with **Pandas** and **NumPy**, enabling clear insights via **Matplotlib**

</> **Modeling Emission Effects on Permafrost with Regression** | *Python, Pandas, NumPy, Matplotlib, Scikit-learn, Seaborn*
- Outperformed **160+ teams and 600+ participants**, selected as **1 of 10** finalists in 2023 National Big Data Challenge
- Standardized greenhouse gas emissions data and permafrost temperatures from **26 global boreholes** using **Python, scikit-learn, and seaborn**, improving **data consistency** for analysis by **20%**
- Provided actionable insights for climate research teams by analyzing the impact of three emission pathways, highlighting key trends in permafrost temperature changes

○ **RecallAI** | *Python, OpenCV, MediaPipe, PyAudio, Cohere, WhisperAI, MongoDB*
- Achieved **93% accuracy** in facial detection by building a system using **OpenCV and MediaPipe**, and integrated synchronized audio recording with **PyAudio** to enhance functionality
- Enabled **real-time AR applications** by implementing ML-based conversation summarization using **Cohere**, improving user recall and interaction efficiency

○ **EcoPool** | *JavaScript, HTML5, CSS, Node.js, Express.js, MongoDB, Mapbox, Socket.io*
- Improved mock user accessibility across devices by 100% by creating a **fully responsive** front-end using **HTML5, CSS, and JavaScript**
- Achieved **94% design consistency** by implementing pixel-perfect designs from **Figma** into the front-end

EXPERIENCE

Python Teaching Assistant   Jul. 2021 – Apr. 2022
Explorer Robotics   *Toronto, ON*
- Tutored **12+ students**, enhancing their programming skills through hands-on exercises and personalized feedback
- **Boosted attendance by 20%** by leading interactive coding sessions tailored to student learning preferences
- Optimized instructional materials for clarity, **reducing average troubleshooting time by 25%** by simplifying explanations and incorporating step-by-step examples

Ski Instructor   Dec. 2021 – Mar. 2024
Dagmar Ski Resort   *Uxbridge, ON*
- Developed an attendance app, cutting **lesson management time by 32%** by automating attendance tracking
- Increased **returning students by 57%** through personalized lesson plans and consistent encouragement

Youth in Policing Team Member   Nov. 2021 – Mar. 2022
Durham Regional Police   *Whitby, ON*
- Coordinated operations for the 2022 IMPACT Youth Forum, ensuring seamless execution of activities for **1,750+ attendees** by developing detailed schedules and workflows, leading to a **17% reduction** in event setup time
- **Raised over $15,000** for local charities through outreach campaigns, **exceeding targets by 53%**