Vu Cao

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WORK EXPERIENCE

Carleton University

Teaching Assistant - Computer Science   Sep 2024 - Present

- Facilitated tutorial sessions for COMP 1405 students, guiding them through Python concepts and course material.
- Led office hours to clarify lecture content, answer technical questions, and assist students with assignments.
- Collaborated with professors to enhance lecture content by developing code examples and test cases.

EDUCATION

Carleton University

B.Sc. in Computer Science, Honours Program - 11.85 GPA   Sept 2023 – Present

PROJECT

Walk in the Park   Apr 2024
- Achieved Best AI in Education Hack in GenAI Genesis 2024 (out of 250+ participants).
- Utilizes React Native, Gemini, and Google Maps to build a gamified mobile application that encourages interaction, awareness and contribution towards local communities.
- Developed a REST API to handle incoming/outcoming requests to the backend efficiently.

TRACY: Tennis Realtime Analysis Coaching   Feb 2024
- Achieved 3rd Best Hack in QHacks 2024 (out of 200+ participants).
- Developed an accessible and responsive, React web app for real-time tennis analysis and coaching, implementing computer vision algorithms powered by OpenCV and TensorFlow.
- Tracks, calculates rapid projectile movements in 3D space from a monocular viewpoint.
- Delivers personalized insights and feedback to enhance the skills of tennis enthusiasts.

Melodica   Oct 2023
- Achieved Best Hack for All Arts in McGill AI Hacks 2023 (out of 150+ participants).
- Developed an interactive webapp that leveraged Tensorflow and open source neural networks to separate instrument stems, and providing multiple various functionalities for musicians.
- Implemented a real-time and interactive audio player that allows individual track manipulation.

Audio Processing Research Paper   Jun 2022 - Jan 2023
- Investigating the effectiveness of Fourier analysis in its applications with audio processing.
- Analyzed the relationship of Fourier analysis based automatic music transcription algorithms and their time windows and activation levels.
- Awarded the IB diploma for completing the Extended Essay.

SKILLS

- Languages: C/C++, Python, Java, JavaScript, Processing, HTML, CSS, MySQL
- Libraries and Frameworks: OpenCV, TensorFlow, Keras, PyTorch, Node, React, React Native, Flask
- Technologies: Linux, Git, Android Studio, AWS, Docker, Shell Scripting, MongoDB, REST APIs