Hailey Thao Quach

Data Science and ML Intern

Motivated undergraduate student with a strong foundation in machine learning (ML), data science and artificial intelligence (AI), seeking to apply my knowledge and skills in a research-oriented role. Proficient in using deep learning (DL) and ML libraries, with a proven ability to develop and implement novel algorithms. Committed to staying up-to-date with the latest advancements in AI and ML technologies.

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Montreal, Canada

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SKILLS

Operating Systems
Android, Windows 7/8/10/11, Linux

Development Languages
Python, Java, C, MySQL, HTML5, CSS3, JavaScript, PHP, Docker, bash and csh

Machine Learning/ Deep Learning
Pytorch, Tensorflow, Scikit-learn, Pandas, Numpy, Matplotlib, Seaborn, Computer Vision

Soft Skills
Teamwork and Collaboration, Adaptability, Self-discipline and Motivation, Leadership, Attention to Detail, Good communication

Languages
English (fluent), French (professional proficiency), Vietnamese (native)

WORK EXPERIENCE

ML Student Researcher
Health-X Lab

05/2023 - 09/2023   *Montreal, Canada*

Achievements/Tasks

- Utilized Python, Scikit-learn, Numpy, Pandas, and Matplotlib to analyze and characterize spectral information of different tissue classes in the fields of computational biology
- Implemented machine learning algorithms for blood vessel segmentation, achieving above 90% accuracy for 80% of the models on the test set
- Performed feature selection to optimize segmentation algorithms and validated/compared different strategies to select the optimal approach
- Collaborated on analyzing and characterizing spectral information of different tissue classes, contributing to the development of effective segmentation algorithms
- Presented the results at the Concordia Undergraduate Student Research Showcase for a general audience

Junior Software Developer Intern
Air Canada

09/2022 - 12/2022   *Montreal, Canada*

Achievements/Tasks

- Collaborated with the Applications, Development & Maintenance - Finance team at Air Canada to initiate the IT Finance modernization program using Python, bash, csh, HTML5/CSS3, and JavaScrip
- Reviewed and updated existing scripts and documentation, ensuring accuracy and completeness for future use
- Enhanced the internal reporting website at Air Canada by adding new sections and tools, improving overall usability and accessibility for stakeholders
- Utilized Python to develop automation scripts, streamlining report production and saving approximately 2 hours of manual work per week

EDUCATION

Bachelor of Computer Science – Co-op, Honors
Concordia University

09/2021 - 12/2024   *Montreal, Canada*

Courses

- Introduction to Probability and Statistics
- Data Structure and Algorithm
- Introduction to Machine Learning
- Database

PERSONAL PROJECTS

CNN-Based Classification and Feature Extraction for Medical Imaging and Computer Vision (Academic) (09/2023 - 12/2023)

- Worked in a team of 5 to developed a Convolutional Neural Network (CNN) encoder (ResNet-18) for classifying colorectal cancer using PyTorch, achieving high accuracy of above 90%
- Extended the study to include prostate cancer and animal face datasets, demonstrating the effectiveness of transfer learning
- Utilized t-SNE for data visualization, highlighting the CNN's capability in feature extraction across diverse datasets
- Designed and implemented a comprehensive pipeline for the classification tasks integrating t-SNE visualization and classical machine learning models like K-Nearest Neighbors and Random Forest

HONOR AWARDS

Michele Thibodeau Entrance Bursary in Engineering and Computer Science (09/2021 - Present)
Concordia University

ConU Alumni Assoc In Course Bursary (05/2023)
Concordia University

Bourse d'Excellence for Engineering (09/2022)
Concordia University

Dean's Honor List (09/2022 - Present)
Concordia University

VOLUNTEER EXPERIENCE

Friendly Caller
The Yellow Door

05/2023 - 09/2023   *Montreal, Canada*

Tasks/Achievements

- Provided weekly one-on-one wellness calls to senior members

Kitchen Helper
Innovation Assistance

05/2023 - 09/2023   *Montreal, Canada*

Tasks/Achievements

- Assisted in food preparation and triage including washing, chopping, and sorting ingredients
- Supported cooking processes under chef's guidance, managing basic cooking tasks