Wisang Sugiarta

438-830-2518 | wisang.sugiarta@mail.mcgill.ca | wsugiarta.ca

Education

M.Sc. Computer Science 2023
University of Montreal *Canada*

- Thesis: Deep learning in operations research
- Advisor: Emma Frejinger
- Quebec AI Institute (MILA), CIRRELT
- Coursework: Applied Machine Learning, Statistical Learning Theory, Network Science, Reinforcement Learning, Databases

B.Sc. Physics & Computer Science 2021
McGill University *Canada*

- Thesis: Deep learning for cancer cell segmentation in medical physics studies
- Final 60 Credit GPA: 3.74
- Coursework: Algorithms and Data Structures, Algorithm Design, Numerical Computing, Machine Learning, Stochastic Processes, Signal Processing, Quantum Physics, Honors Advanced Calculus, Linear Algebra, ODEs

Experience

M.Sc. Researcher Sep. 2021 – Present
University of Montreal & MILA *Montreal, Canada*

- Use machine learning methods for operations research in train path planning and cost optimization.

Data Engineering Intern Dec. 2020 – May 2021
Bureau des données clinico-administratives, Ministry of Health in Quebec *Montreal, Canada*

- Use deep learning methods and data visualization to predict hospitalization and death rates of the sub-regions in Quebec.
- Create scalable deep learning architecture to predict weekly COVID outcomes from data pipeline.

Computational Physics Researcher Feb. 2020 – Jan. 2021
McGill University Health Center - Research Institute *Montreal, Canada*

- Implemented deep learning methods (CNNs) to create software that segments cancer cells from healthy cells and fast radiation dose calculations.
- Analysis of the radiation therapy Monte Carlo simulation software to compare RBE of patient specific cell size distributions and other quantities.

Head Supervisor and Instructor Summer 2020
Northern Village of Kuujjuaq *Kuujjuaq, Canada*

- Implementing and instructing lifesaving candidates on the procedures and regulations of the Canadian National lifesaving program.
- Supervise staff, schedule shifts and manage daily tasks.

Academic Projects

Predicting Individual COVID-19 Outcomes during Quebec's Second Wave | INESSS March 2021

- Aim of study is to predict patient-specific outcome after a positive COVID-19 diagnosis. Able to achieve above 95% AUC and sensitivity scores in the study.

Analysis of the RBE of Particle Radiation Using 3D Models | IJRO June 2020

- A novel cell segmentation method to make predictions of RBE using tissue models containing the same cell and nucleus size distributions as found using computer vision in a patient's histopathological sample and Monte Carlo based simulation using inhouse software.

Radioactive Decay and Counting Statistics of Carbon | McGill Physical Journal Dec. 2019

- Aim: study the statistics and behavior of a decaying radioactive isotope decay using a Geiger counter to detect energetic particles emitted form the nucleus of a radioactive 137Cs sample.

Other

Tutor/Mentor Sep. 2020 – Present
McGill AI & Polytechnique AI *Montreal, Canada*

- Help run tutorials for low-level undergraduate students looking to get into machine learning.

CEGEP Math Tutor Sep. 2017 – Sept. 2020
Dawson College *Montreal, Canada*

- Hold 3 hour office hour to tutor CEGEP math courses (Calculus I, II and Linear Algebra).

Spoken Languages: English (Native), French (Advanced)
Coding Languages: Java, Python, C/C++, SQL, R, OCaml, Bash
Libraries: PyTorch, TensorFlow, Keras, Thanos, Scikit-learn, NumPy, SciPy, Pandas
Interests: Current Junior A Hockey, Rock Climbing, Ski Touring, Politics, Machine Learning and Climate