Wisang Sugiarta

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Education

M.Sc. Computer Science Present
Mila, University of Montreal, & CIRRELT *Canada*
- Focus: Machine learning applications in operations research and econometrics.
- Advisor: Emma Frejinger
- Coursework: Probabilistic Models, Statistical Learning Theory, Representation Learning, Network Science, Operations Research, Linear Programming, Databases.

B.Sc. Physics & Computer Science 2021
McGill University *Canada*
- Thesis: Deep learning for cancer cell segmentation in medical physics studies.
- GPA: 3.8

Experience

Applied Artificial Intelligence Intern May 2021 – Sept. 2021
National Bank of Canada *Montreal, Canada*
- AI Exploration and Delivery Team
- Develop AI-driven solutions in Financing, Credit Risk and Fraud sectors with proven added value.
- Contributed to bank-wide explainable guidelines to asses mathematical model development.

Graduate Research Assistant Jan. 2021 – Present
Multiple Locations *Montreal, Canada*
- Use machine learning methods for operations research in train path planning, cost optimization and time-series forecasting (Frejinger Lab, Mila).
- Research in better AI human-interaction and applied ethics. (RAISE Lab, McGill/Mila).

Data Science Intern Dec. 2020 – May 2021
Bureau des données clinico-administratives, Ministry of Health in Quebec *Montreal, Canada*
- Used traditional statistical, machine learning and time-series forecasting methods to predict hospitalization and death rates of the sub-regions in Quebec.
- Created scalable architecture to predict weekly COVID outcomes from data lake.
- Developed methods for medical usage forecasting and long-term care predictions.

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 (Pre-print) March 2021
- Aim of study is to predict patient-specific outcome after a positive COVID-19 diagnosis using clinical-administrative data. Achieved above 95% AUC and sensitivity scores in the study.

Analysis of the RBE of Particle Radiation Using 3D Models | RI-MUHC 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.

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++, SQLite, 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