RONAN LEGIN

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Website | GitHub | Scholar

SUMMARY

Applied Machine Learning researcher/engineer (PhD) building **reliable ML systems** for **distribution-shifted, noisy data**. Strengths: robust inference, uncertainty quantification, and rigorous evaluation on real-world and simulated datasets. Delivered reproducible ML tools incl. **6× pipeline speedup** adopted by a collaboration and open-source **JWST artifact removal** (MLstripes4JWST). Seeking **Machine Learning Engineer** or **Applied Scientist** roles focused on trustworthy ML in production.

SKILLS

Programming:	Python, NumPy/SciPy, Git, Linux, Bash; testing (pytest); profiling/optimization
ML:	PyTorch; **generative models**; Bayesian inference; uncertainty quantification
ML Engineering:	experiment tracking; reproducible training/eval pipelines; benchmarking
Data & Compute:	data cleaning; artifact removal; real-world data; large-scale simulations; **Slurm**

EXPERIENCE

University of Montreal — PhD Researcher (Applied ML / Physics) *Sep 2020 – Present*

- Designed and implemented ML inference systems for selection-bias correction, high-dimensional non-linear inverse problems, and population-level inference; rigorously validated on real and simulated data (**NeurIPS/ICML** presented/published).
- Developed an ML method to remove structured detector artifacts in **JWST** imaging; released documented, reproducible code (MLstripes4JWST).

Flatiron Institute (Center for Computational Astrophysics), New York City — Research Intern (ML) *Sep 2022 – Mar 2023*

- Prototyped and validated probabilistic and generative inference methods for large-scale simulations with limited labels and non-analytic (non-Gaussian) noise.

McGill University (HERA Collaboration) — Research Intern *May 2019 – Sep 2019*

- Optimized statistical modeling and data-processing pipelines for radio telescope data, achieving **6× runtime speedup** adopted by the collaboration; added anomaly and data-quality checks.

EDUCATION

Université de Montréal — PhD Candidate, Astrophysics (Applied ML) *Expected 2026*
McGill University — B.Sc., Honours Physics *2017 – 2020*

LEADERSHIP & SERVICE

- Delivered **20+ technical presentations**, including **NeurIPS/ICML** posters, invited talks and lectures on applied ML and uncertainty-aware inference.
- Reviewer for **MILA PhD Program** (Dec 2023): evaluated applicants on technical depth, coding ability, and research experience.

AWARDS

- **NSERC CGS-D** (2023)
- Hydro-Québec Excellence Bursary (2023)