# 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

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|---|---|
| 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** — Visiting Researcher (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)