


Nurul Bin Ibrahim

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Summary

End-to-end **Developer & Physicist** with 2+ years of experience, specializing in **Data Science, Machine Learning, and Cloud Development**. Dedicated to developing practical, automated, cloud-based solutions for science & tech industries.

Experience

Cloud Simulation Developer

Memorial University of Newfoundland

September 2023 – Present

NL, Canada

- Developed a **fluid simulation** framework to analyze turbulence in cloud environments (*DRAC, GCP*), achieving a 50% reduction in computational time for research activities.
- Enhanced project's data processing and analysis speeds by 20x using **CUDA**-based GPU algorithms, enabling faster, more accurate analysis.
- Streamlined deployments and boosted performance via scalable *Docker* and *Kubernetes workflows*, increasing project throughput and efficiency.

Machine Learning Researcher

Memorial University of Newfoundland

April 2023 - October 2023

NL, Canada

- Developed and trained high-resolution **machine learning models** (*RNN, CNN, LSTM, GAN*) using *TensorFlow* that resolved the complex behavior of turbulent jets.
- Leveraged Cloud services to enhance model accuracy by 25%, demonstrating proficiency in deploying scalable AI/ML solutions in **production** environments.
- Disseminated deep-learning tools through publications/presentations at conferences, elevating the understanding of turbulence of **150+** researchers.

Data Scientist

Memorial University of Newfoundland

April 2022 - October 2022


NL, Canada

- Co-developed **the first** fish detection solution for ADCPs (*MATLAB, Python*), producing crucial marine life insights for 100s of scientists.
- Conducted exploratory **data analysis**, processing, and visualization (*Pandas, NumPy, Matplotlib*), facilitating the adoption and application of the solution.
- Ensured **100%** data accuracy through rigorous **Quality Assurance** measures; optimized research equipment for peak operational efficiency.

Projects

AI Academic Advisor

Developed an AI academic advising platform integrated with conversational AI agents and automated data pipelines to provide scalable academic support across educational institutes, facilitating personalized user engagement.

 <https://www.unikai.ca/>

The Nurul Network

Engineered an automated deep-learning solution to predict turbulent system behaviors, offering insights into new scientific discoveries.

 https://github.com/nbibrahim/The_Nurul_Network

AI mini-projects

DocChatAI, FAQGenius, Natural Language Processing, Speech Recognition, Transformers, RAG, CUDA Neural Networks, AIris, ImageClassification, and more on GitHub.

Skills

- Languages:** Python, C/C++, MATLAB, JavaScript, HTML, SQL, R
- Frameworks & Libraries:** TensorFlow/PyTorch, Pandas/NumPy/SciPy/Matplotlib, Flask, React.js/Node.js
- Tools & Tech:** Git, Linux/Bash, Docker, Kubernetes, CUDA, APIs, LangChain, MLFlow, MongoDB, MySQL, Slurm, MPI/OMP, GCP/AWS/DRAC, GitLab CI

Education

Memorial University of Newfoundland

B.Sc. in Physics (Honors)

Graduating April 2024

GPA = 3.6 /4.0

- Secretary and Ex-Vice President of the Physics and Physical Oceanography Society (PAPOS).
- Funded by the Dr. Hugh J. Anderson Senior Scholarship 2023-2024.

Conferences

- CUPC'2023** hosted by CAP, Waterloo | **AUPAC'2023** hosted by Science Atlantic, Halifax | **AWC'2022** hosted by CAA, St. John's