Luong-Ha Nguyen

Web Portfolio

🌐 hazone.me
⭕ Github profile
🔺 Research publications
in LinkedIn profile

Contact

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📍 Montreal, QC, CANADA

PROFESSIONAL EXPERIENCE

Machine Learning Engineer at AI Redefined (AIR) | Montreal, QC, CANADA | *Jul., 2022 - present*
- Design, develop, and maintain robust machine learning pipelines for applications including time series forecasting, anomaly detection, computer vision-based fault detection, and reinforcement learning with human feedback and demonstrations.
- Contribute and drive research initiatives internally and with industrial & academic partners.

Research Associate (part time) at Polytechnique Montreal | Montreal, QC, CANADA | *May, 2022 - present*
- Develop an efficient learning paradigm for deep neural networks aimed at improving accuracy and training time
- Lead the development of the open-source software, pyTAGI, a Python interface connecting to the C++/CUDA backend (cuTAGI) for Bayesian neural networks. Code available at `https://github.com/lhnguyen102/cuTAGI`.

Machine Learning Engineer at Shearwater Aerospace | Montreal, QC, CANADA | *Sep., 2021 - Jun., 2022*
- Designed and implemented a machine learning-based path planning system for Unmanned Aerial Vehicles (UAVs), significantly improving flight efficiency.
- Developed autonomous control system based on reinforcement learning for Unmanned Aerial Vehicles.

Postdoctoral Researcher at Polytechnique Montreal | Montreal, QC, CANADA | *Nov., 2019 - Sep., 2021*
- Formulated a theoretical approach for modeling uncertainty in neural networks.
- Implemented and tested the proposed approach on various learning tasks.

EDUCATION

Ph.D. in Machine Learning for Civil Engineering at Polytechnique Montreal, Montreal, QC, CANADA | 2019.

Engineer Diploma in Civil Engineering at ESTP Paris, Paris, FRANCE | 2016.

ACHIEVEMENTS

Open-Source Software for Bayesian Neural Networks | Code available at: `https://github.com/lhnguyen102/cuTAGI`
- Designed and implemented an efficient learning method for deep neural networks in C++ and CUDA.
- Tested software on supervised, unsupervised, and reinforcement learning tasks.

Journal papers
1. L.H. Nguyen and J.-A. Goulet. Analytically Tractable Hidden-States Inference in Bayesian Neural Networks. *Journal of Machine Learning Research (JMLR)*, 23 (50), 1-33, 2022.
2. J.-A. Goulet, L.H. Nguyen, S. Amiri. Tractable Approximate Gaussian Inference for Bayesian Neural Networks. *Journal of Machine Learning Research (JMLR)* , 22 (251), 1-23, 2021.

Conference proceedings
1. L.H. Nguyen, J-A. Goulet. Analytically Tractable Inference in Neural Networks-An Alternative to Backpropagation, *Bayesian Deep Learning workshop, NeurIPS 2021*.
2. L.H. Nguyen, J-A. Goulet. Analytically Analytically Tractable Inference in Deep Neural Networks, *Tractable Probabilistic Modeling workshop, UAI 2021*.

SKILLS/INTERESTS

Programming	C/C++, CUDA, Python, MATLAB, React, Javascript
AI/ML	Pytorch, Tensorflow, Numpy, Pandas, Scikit-learn, Probability & Statistics, Machine Learning Theory Reinforcement Learning, Computer Vision, MLflow, Data Science, and Database Management
DevOps Tools	AWS, Cloud Computing, Microservices, gRPC, REST API, Kubernetes, PostgreSQL, Docker, GitHub, Jira, Flightgear, and JSBsim (Flight Dynamics Model)
French	Fluent (speaking, reading, writing)
English	Fluent (speaking, reading, writing)
Vietnamese	Native Language
Interests	Robotic process automation, blockchain, virtual reality, drones