Quang Anh NGUYEN

Master Student

Mathematics, Vision and Learning ◇ École Normale Supérieure, France
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Education

École Normale Supérieure *10/2021 - present*
Master 2's degree, Mathematics, Vision & Machine Learning Gif sur Yvette, France

École Polytechnique *09/2018 - 09/2021*
Ingénieur Polytechnicien Program, Applied Mathematics Palaiseau, France

Ho Chi Minh Ciy University of Technology *09/2015 - 09/2018*
Bachelor of Engineering, Mechatronics Ho Chi Minh City, Vietnam

Experience

SNCF Réseau — Deep learning, Time series analysis *03/2021 - 09/2021*
Research Intern · Supervisors: Quang Anh Ta, Danilo Sorrentino Paris, France
- Reconstructed railway geometrical signals from accelerometer measurements on TGV IRIS-320
- Built and improved networks based CNNs and RNNs for time series regression
- Contributed to Harmotrack project
- Exploited Amazon Web Service platform

Fastlite — Numerical simulation *06/2020 - 09/2020*
Engineer Intern · Supervisor: Nicolas Forget Orsay, France
- Implemented the simulation of non linear propagation of electromagnetic waves in materials
- Contributed to the theoretical base of the OPCPA project (Optical Parametric Chirped-Pulse Amplification)

Vietsteel — Optics *07/2017 - 05/2018*
R&D assistant Ho Chi Minh City, Vietnam
- Integrated in a R&D group for optical fiber laser manufacturing

Course projects

Stochastic gradient descend algorithm with chaos expansion *12/2020*
- Applied SGD for Minimum mean-variance portfolio problem in finance
- Implemented uncertainty quantification for stochastic approximation limits using chaos expansion

Autonomous racecar model algorithms *02/2020*
- Utilized ROS for robotics and computer vision applications
- Implemented algorithms for racecar model using LIDAR online data for path finding and obstacle avoiding
- Performed on simulation and real terrains

Polyomino tiling and exact cover problem [github/polyomino] *01/2020*
- Implemented Redelmeier's algorithm for polyomino generation
- Studied D. Knuth's dancing links algorithm to solve exact cover problems

Collective scientific project — Cell deformation classification *06/2019 - 03/2020*
- Improved feature extraction from videos of experiments on the mechanics of lymphocytes
- Applied SVM, Decision tree for classification of lymphocytes deformation

Related courses

Mathematics	Convex optimization, Computational optimal transport
Computer vision	3D computer vision, Object recognition & computer vision
Machine learning	Probabilistic graphical models, Computational statistics, Deep learning, Advance learning for text and graph data

Languages

Vietnamese	Native speaker
English	Advanced
French	Advanced

Digital skills

Programming	Python, Java, MATLAB, C/C++, LaTeX
Frameworks	PyTorch, TensorFlow, scikit-learn, NumPy, pandas, OpenCV
Tools	VS Code, Eclipse, AWS