

# QUI LOC PHAN

ENS & Dauphine - PSL

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locphan2001.github.io

Vietnamese

## Education

### Dauphine - PSL & Mines Paris - PSL (co-accreditation)

2023 – 2025

Master of Computer Science, *Top 30% in 1st year*

Paris, France

### Ho Chi Minh University of Education

2019 – 2023

Honours Bachelor of Mathematics, *Valedictorian*

Ho Chi Minh, Vietnam

## Experience

### Dassault Systèmes

Mar 2025 – Sep 2025

Research Intern (Thiago Milanetto Schlittler and Prof. Roland Grappe)

Vélizy-Villacoublay, France

- Study variational and annealing algorithms on quantum computers for combinatorial optimization and machine learning
- Explore their current challenges and develop these methods, compare them to classical solvers and different hardware

### LAMSADE, Dauphine - PSL

Mar 2025 – Jun 2025

Research Student

Paris, France

- Thoroughly study the connection of operations research and AI challenges, make minor scientific contribution
- Research Project 1 (5 ECTS): Explainable AI with new methods (Prof. Alexis Tsoukias)
- Research Project 2 (5 ECTS): Graph-based energy minimization methods in computer vision (Prof. Angelo Fanelli)

### UMA, ENSTA Paris - IIParis

May 2024 – Aug 2024

Research Intern (Prof. Andrea Simonetto and Prof. Sourour Elloumi)

Palaiseau, France

- Study how to construct efficient ansatz for variational algorithms to address binary polynomial optimization problems
- Create ansatz for encoding those problems into gate-based quantum computers with minimal number of CNOT gates

### QUACS, INRIA Saclay

Feb 2024 – Apr 2024

Research Student

Palaiseau, France

- Thoroughly study the connection of operations research and quantum computing, make minor scientific contribution
- Research Project (5 ECTS): Quantum Markov Process for optimization

### Algebra Group of Research, HCMUE

10 months

Research Intern

Ho Chi Minh, Vietnam

- Study fundamental aspects of combinatorics and abstract algebra, model and address combinatorial problems
- Design or develop, and evaluate algebraic algorithms both in theory and practice mathematically

## Project

### Quantum Machine Learning

2024

- Implement Variational Quantum Eigensolver, evaluate performance with different optimizers and hyperparameters
- Build Variational Quantum Classifier for IBM-birds dataset, evaluate on different types of hardware-efficient ansatz

### Deep Learning in Computer Vision

2024

- Build and deepen network with more layers and variational SGDs, reach accuracy 97% from 92% on MINIST dataset
- Build VAE (without and with CNN) and GAN to generate images, evaluate performance with different hyperparameters

### Quantum Combinatorial Optimization

2023

- Code end-to-end variant QAOA algorithms for QUBO, test performance with different number of layers and parameters
- Study different optimizations (Derivative-free and Evolutionary) on cost function and test on various QUBO problems

## Technical Skill

**Language:** Vietnamese (Native), English (C1), French (currently study B1)

**Programming Language:** Python (2 years), C++ (2 years), Matlab (2 years)

**Quantum Frameworks:** Qiskit, Cirq

**Solver:** GLPK, CPLEX, Gurobi

## Achievement (from 2019)

- Excellence scholarships from ENS + IIParis + HCMUE, with addition 3 yearly national merit awards
- Full scholarship to European Quantum Technology Summer School 2024, by European Center for Quantum Sciences
- Mathematics: 1 silver medal + 1 bronze medal in national competitions, 2 gold medals in regional competitions
- Informatics: top 3%/2000 in Quantum IBM Challenge, 1 bronze medal in regional competition
- Research: 2 silver medals + best thesis award in university contests, 2 poster presentations at international workshops

Updated: March 2025