# Qui Loc PHAN

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## Education

### Laboratoire Génie Industriel, CentraleSupélec
**2025 − now**

*Industrial PhD in Artificial Intelligence for Operations Research*   *Gif-sur-Yvette, France*

- Thesis Goal: Develop a semi-automated process for multi-project planning in project portfolio management
- Keywords: Scheduling & Resource Allocation, Evolutionary Computation, Machine Learning, Decision under Uncertainty

### Université Paris Dauphine & École des Mines de Paris
**2023 − 2025**

*Master in Computer Science for Decision and Management*   *Paris, France*

- Graduated with highest grade in Combinatorial Optimization specialization of program
- Awarded Excellence Scholarship from partner institution ENS Paris Saclay and ENS Paris for 2 consecutive years

### Ho Chi Minh University of Education
**2019 − 2023**

*Honours Bachelor of Mathematics*   *Ho Chi Minh, Vietnam*

- Graduated with Valedictorian Achievement (rank 1st/150)

## Industrial Experience

### Konatus, Novation Center, École Polytechnique
**Oct 2025 − now**

*PhD Student as Research Engineer (CIFRE Program)*   *Palaiseau, France*

- Research on resource-constrained scheduling problems in large-scale companies with complex projects and portfolios
- Improve planning tools using evolutionary computation and machine learning to enhance decision-making efficiency
- Strengthen robustness and flexibility of solution by modeling uncertainty, adapting to resource variability and velocity
- Collaborate with academic researchers to keep methods in line with cutting-edge techniques in operations research
- Work hand-in-hand with industry experts to deploy and validate methods on real historical and operational datasets

### Corporate Research & Sciences Department, Dassault Systèmes
**Mar 2025 − Sep 2025**

*Research Engineer Intern*   *Vélizy-Villacoublay, France*

- Study quantum algorithms for constraint programming: optimization problems with integer and logical constraints
- Develop and implement for practical use cases in long-term, explore near-term challenges, conduct comparative analysis
- Practical case study on Healthcare Staff Scheduling at Paris Hospital with multi-objectives and multi-skills

## Academic Experience

### Groupe Optimisation et Commande, UMA, ENSTA Paris
**May 2024 − Aug 2024**

*Graduate Research Intern*   *Palaiseau, France*

- Study how to optimize resources used in quantum circuit with two objectives: number of gates and depth of circuit
- Understand and construct mathematical programming model and graph optimization model for the problems
- Design heuristics algorithms that produce good solutions and benchmark the results with available open-source libraries

### HCMUE & Vietnam Academy of Science and Technology
**10 months**

*Undergraduate 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

### Production Problem
**2024**

- Construct mathematical programming model for the resource allocation problem, inspired from the Flowshop Scheduling
- Implement Campbell - Dudek - Smith algorithm, with variant on preprocessing stage and postprocessing stage
- Perform clustering algorithms on preprocessing and local search methods on postprocessing to improve the solution

### Quantum Optimization
**2023**

- Encode the mathematical programming model of Max-Cut and Maximum Independent Set into quantum computers
- Code end-to-end QAOA algorithms for the problem, test performance with different number of layers and parameters
- Benchmark with evolutionary algorithms on cost function and introduce some heuristic function for better solutions

## Technical Skill

**Language**: Vietnamese (Native), English (C1), French (B1)
**Programming Language**: Python (3 years), C++ (2 years), Matlab (2 years)