

# Pham Minh Duc

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## Profile

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I'm currently researching the design of technologies and algorithms that address supply chain challenges in developing and emerging markets, especially informal markets, by combining methods from large-scale fieldwork, optimization, computer science, econometrics & data analytics, and action research in particular in the scenario of Industry 4.0.

## Areas of Expertise

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Combinatorial Optimization - Stochastic Optimization - Machine Learning - Data Analytics & Modelling - Supply Chain Analytics - Network design & routing - Production Planning & Scheduling - Operation Excellence - Lean & 6 Sigma

## Education

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- Master in Data Science and Business Informatics** *University of Pisa (Italy)* 09/2023 - Present  
Relevant Courses: Optimization for Data Science, Model Driven Decisions Making
- Double Degree MSc in Production Engineering and Management** *University of Trieste (Italy)* 09/2019 - 03/2022  
Relevant Courses: Operation Management, Data Analytics
- Double Degree MSc in Production Engineering and Management** *TH-OWL (Germany)* 09/2020 - 02/2021  
Activities: Erasmus Plus Exchange Program
- Bachelor in Industrial Management** *HCMC University of Technology and Education (Vietnam)* 09/2014 - 09/2018

## Professional Experience

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- Business Analyst, (Weave Services Limited)** **Hongkong (remote)** 06/2022 - 8/2023
- Developed an automated production scheduling engine using Python & SCIP, solving large-scale Integer Programming models (200+ SKUs) to optimize mold allocation and machine capacity across shifts.
  - Built and applied MIP-based optimization models to enhance multi-constraint capacity planning, aligning production schedules with operator productivity.
  - Conducted end-to-end data analysis (SQL, ERP, manual logs) and on-site field studies to identify root causes and deliver data-driven "Quick Win" improvements.
  - Delivered comprehensive diagnostic reports and business case presentations for C-level executives, translating complex operational challenges into ROI-driven transformation roadmaps.
  - Managed ad-hoc ETL and data pre-processing workflows to clean and standardize raw operational data, ensuring high-fidelity inputs for predictive analytics and diagnostic reporting.
- Production Data Analyst, (Spartronics Vietnam)** **Binhduong, Vietnam** 02/2021 - 05/2022
- Collected, processed, analyzed the data to get insights and support top leaders making decisions, problem solving and improvements.
  - Designed and built the SMT changeover process for two high-volume PCBA products, reduced setup time by 50% and increased OEE to 82%.
  - Built and deployed 20 standardized SOPs and best-practice frameworks with defined KPIs/PPIs to drive process consistency and ensure output quality across operations.
  - Developed a project that increased the First Pass Yield of Box Build products (21 SKUs) on the Tele-radio line to 98.89%, increased 4.09 sigma level, saved \$35k in 2022 for the company.
- Production Engineer, (Coherent Corp.)** **Binhduong, Vietnam** 12/2017 - 09/2019
- Monitored, analyzed daily data regarding to business goals and took corrective/preventive actions to get them back on track.
  - Made weekly/daily production schedules (200 SKUs) based on master production plans with the right time, quantity, conditions.
  - Failure analysis by applying lean tools (5 whys, 5W1H, 5M1E, FMEA), mathematics techniques (6 Sigma, Reliability analysis, Pareto/SPC analysis, Cpk/Ppk, DOE) to define corrective/preventive actions regarding to quality excursions.
  - Developed a productivity improvement process for a Core-Bedding product (single SKU), reducing average labor time from 0.38 to 0.23 hours per unit and saving \$9,229.29 for the company.

## Teaching Assistant, (HCMUTE)

Hochiminh City , Vietnam 09/2016 - 12/2016

- Taught and guided students in Mathematical Programming course, covering LP formulation and solution methods (Simplex, Graphical), optimization problems (Capacitated Facility Location Problem, Resource Allocation Problem), and project scheduling techniques (CPM, Gantt).

## Online Courses & Certifications

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- Certified in Planning and Inventory Management (CPIM) (Sep. 2023) - [APCIS](#)
- Specialization Certificate Six Sigma Green Belt (Jan. 2023) - [The University System of Georgia, Coursera](#)
- Specialization Certificate of Analytics for Decision Makings (Jan. 2022) - [University of Minnesota, Coursera](#)
- Specialization Certificate Supply Chain Management (Nov. 2020) - [Rutgers Business School, Coursera](#)
- Specialization Certificate Project Management Principles and Practices (Oct. 2020) - [University of California, Irvine](#)

## Skills

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<b>Programming:</b>	Python, C++, AMPL, SQL
<b>Modelling Systems:</b>	PuLP (Python), Pyomo (Python), SMS++ (C++)
<b>Solvers:</b>	CPLEX, Gurobi, HiGHS, COIN-OR CBC
<b>Statistics:</b>	R, Microsoft Excel, Minitab
<b>Data Visualization:</b>	Microsoft Power BI
<b>Others:</b>	LaTeX

## Languages

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- **Vietnamese** [Native]
- **English** [Advanced]

## Honors & Awards

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- Intel Product Vietnam Scholarship (2017)
- AmCham Vietnam Scholarship (2017)

## References

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- **Associate Professor. Elio Padoano**  
University of Trieste  
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- **Hoang Quoc Huy**  
(Ex.) Senior Manager at Weave Services Limited  
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