

# Manh Tuan Dinh

Date of birth: 10/08/2002 | Gender: Male | Nationality: Vietnamese | Address: France (Home)

## Education & Training

**Materials Engineering | Excellent Engineering Training (PFIEV) | Ho Chi Minh City University of Technology (HCMUT) | 01/10/2020 - 05/11/2025 | Ho Chi Minh City, Vietnam**

GPA: 3.77/4.0 (**Valedictorian**), Thesis: 9.5/10.0

Coursework: Polymer Science, Polymer Processing, Characterizations, Membrane Technology, Advanced Materials for Energy, Semiconductors, Material Selection & Design

Honors: Awarded **15+ merit-based scholarships**, including –

- Fuji Seal Foundation Scholarship 2023, **1 of 8 scholars across Asia**
- America Chamber of Commerce Scholarship 2023 (AmCham), top 1% of students in HCMC
- The Pony Chung Foundation Scholarship 2024, among 25 recipients of the Vietnam National University

Level in EQF: 7

**Industrial Engineering | Erasmus+ International Credit Mobility | University of Trento | 09/09/2024 - 21/02/2025 | Trento, Italy**

GPA 25.8/30.0 (**1 of 3 nominees from HCMUT, full scholarship**)

Coursework: Materials for Energy, Materials Design, Characterization Lab, and Financial Analysis

- Designed and optimized a non-asbestos brake pad using GRANTA materials selection software, evaluating candidates across mechanical, thermal, tribological, and safety constraints. Conducted a full engineering trade-off analysis (performance, durability, manufacturability) and completed a Life Cycle Analysis (LCA) to quantify environmental impact and sustainability improvements over conventional materials
- Synthesized b-Tricalcium Phosphate (b-TCP) bioceramic from waste mussel shells via controlled cold sintering for biomedical applications. Characterized material composition and structure (e.g. XRD, FTIR) and evaluated its suitability as a biodegradable scaffold for bone regeneration

Level in EQF: 7

## Work experience

**Research Engineer | Institut Européen des Membranes | 15/12/2025 - Current | Montpellier, France**

- Received excellent performance evaluation for execution quality and project management in a **€1M multi-stakeholder R&D project** with three industrial partners (SIEBEC, BASF, Arkema), delivering monthly analytical reports, aligning academic research with manufacturing constraints
- Designed and currently lead a **machine-learning-driven formulation project**, applying **Particle Swarm Optimization (PSO)** to jointly optimize polymer formulations and processing parameters, balancing permeability, mechanical integrity, defect suppression, and cost efficiency
- Integrated experimental characterization with data analytics, leveraging FTIR, SEM, rheology, mechanical testing, and filtration performance to build feedback loops for optimization and decision-making (OriginLab, MS Excel)

**Research Intern | Institut Européen des Membranes | 15/04/2025 - 10/10/2025 | Montpellier, France**

- Received **the highest grade for final-year thesis**: Optimization of PES hollow fiber membranes for microfiltration, eliminating macrovoid defects by tuning phase-inversion parameters, resulting in structurally uniform, defect-free fibers suitable for industrial water and wine filtration

**Intern | Hitachi Asia Ltd. | 01/04/2024 - 31/07/2024 | Bali, Indonesia**

- Collaborated with C-level executives and ASEAN youth to design policy recommendations on just energy transition and accessibility for aging ASEAN cities with outdated infrastructure
- Performed field exploration of microgrid infrastructure on Nusa Penida Island to study solar energy systems, culminating in a policy pitch to a regional advisory panel

## Projects

**Using Neural Networks and Technical Indicators for Stock Prediction | WorldQuant University | 01/10/2025 - 01/11/2025**

- Built an end-to-end financial time-series pipeline, acquiring 20+ years of market data via API, cleaning and transforming it, and engineering return and volatility features for Multilayer Perception (MLP)-based forecasting
- Designed, trained, and evaluated an MLP for asset and volatility prediction using K-fold cross-validation, benchmarking performance against statistical baselines with visual diagnostics

<https://dmtu4n.github.io/manhtuan-dinh.github.io/>

**Vietnam & Australia Bond Yield Curve Modelling, State Street ETF Analysis | WorldQuant University | 01/09/2025 - 01/10/2025**

- Modeled yield curves across multiple markets by applying Nelson–Siegel (parametric) and Cubic Spline (non-parametric) methods to government bond data, analyzing term-structure dynamics across maturities
- Analyzed correlation and factor structures in financial markets using Principal Component Analysis (PCA) and Singular Value Decomposition (SVD) to yield changes and equity returns, uncovering common drivers of cross-maturity and cross-asset co-movements

**TikTok Post Classification Project Using Regression and Tree-based models | Google | 01/01/2025 - 31/03/2025**

- Built and evaluated a supervised classification pipeline on a 19K+ TikTok dataset to distinguish claim vs. opinion videos, using feature engineering, train/validation/test splits, and performance metrics (F1, precision, recall)
- Applied statistical testing and machine learning models (logistic regression, Random Forest, XGBoost) to uncover behavioral patterns, validate hypotheses (t-test, Mann-Whitney U), and deliver interpretable insights with ethical and stakeholder considerations

## Certifications

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### WorldQuant University Applied Data Science Lab Certificate | WorldQuant University | 22/07/2025

- Completed 8 applied data science projects (90%+ score each), covering regression, classification, clustering, time series, and causal inference on real-world datasets across finance, real estate, risk, and experimentation
- Built end-to-end ML pipelines by cleaning and transforming large datasets (21K+ records), engineering features, handling missing/imbalanced data, and improving model performance by regularization, resampling, and hyperparameter tuning
- Deployed data-driven insights and applications by querying SQL/NoSQL databases, integrating APIs, implementing ETL workflows, and delivering interactive dashboards and model-serving APIs (Plotly Dash, three-tier architecture)

### Google Data Analytics & Advanced Data Analytics Certificate | Google | 27/03/2025

- Acquired Python, R, and SQL skills for data analysis, including exploratory data analysis, hypothesis testing, machine learning models (Linear Regression, Logistic Regression, K-means, Clustering, XGBoost, Random Forest)
- Built and deployed ML prediction models through web applications. Tableau for visualization and data storytelling
- Worked on a TikTok case study to build an ML model to classify posts as claims or opinions, based on features like views, likes, shares, and duration. And a capstone project at Salifor Motors to predict employees at risk of leaving the company

### Google Business Intelligence Certificate | Google | 09/04/2025

- Developed end-to-end BI workflows to transform raw, heterogeneous data into actionable business insights, covering data modeling, ETL pipelines, metric definition, and stakeholder-oriented analysis
- Designed interactive dashboards and reports using Tableau, applying BI best practices (KPI design, visual hierarchy, user-centric storytelling) to communicate insights effectively to non-technical stakeholders

### McKinsey Forward Certificate | McKinsey & Company | 10/12/2025

- Applied a hypothesis-led problem-solving framework to deliver SMART, actionable recommendations for a real business problem
- Developed executive communication skills through the EPIC framework to synthesize clear, persuasive messages from complex analyses

### Project Management Professional Training | Atoha Institute Vietnam | 24/08/2023

- Gained knowledge in project planning, scope management, stakeholder engagement, and risk mitigation across the project lifecycle
- Used waterfall, Agile, and earned value methods to simulate real-world project timelines and delivery

## Leadership & Global Activities

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### Hitachi Young Leader Initiatives 2024 (HYLI) | Hitachi Asia Ltd. | Bali, Indonesia

- Selected as 1 of 4 national delegates for a fully-sponsored biannually leadership program
- Collaborated with outstanding Southeast Asia and Japan national delegates on a project to enhance access to clean energy in cities with outdated infrastructure in Southeast Asia

### Rainforest Youth Summit 2024 (RAYS) | Ministry for Youth, Sports & Entrepreneur Development | Sarawak, Malaysia

- Received full sponsorship for an international youth summit focused on environmental conservation, bringing together young leaders, indigenous voices, and sector experts to drive actionable discussions on ecosystem preservation and climate action

### CommTECH Camp Insights 2024 | Institut Teknologi Sepuluh Nopember (ITS) | Surabaya, Indonesia

- Chosen for a fully funded global technology camp focused on smart materials design. Enhancing understanding of technology innovations and challenges related to SDG 7 (Clean Energy), culminating in the award for best presentation and best participant

### Summer Programme in Entrepreneurship 2023 | National University of Singapore | Singapore

- Awarded a full scholarship among 9 Vietnamese delegates for a two-week intensive entrepreneurship experience, focusing on venture creation processes, stakeholder engagement in the startup ecosystem, and entrepreneurial skill development through workshops hosted by Microsoft, Google, and Alibaba, which included ideation, pitching, and global networking opportunities

## Skills

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**Technical skills** | Polymer Processing | Materials characterization | 3D modelling | Life Cycle Assessment | Python | SQL | Data Science | Data Collection, Data Processing, Data Analysis, Data Visualization | Machine Learning

**Digital skills** | LaTeX | Microsoft Office (Word Excel PowerPoint) | Video editing (Premiere)

**Language** | IELTS 8.0 | French: B1 | Vietnamese