

# Hong MengZe

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## Education & Achievements

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**University of Nottingham Malaysia Campus**

**Malaysia, Selangor**

**BSc Mathematics and Data Science**

2021.09 – 2024.06

- Current Result: First Class (75%)
- Core Modules: Statistical Models and Methods, Probability Models and Methods, Artificial Intelligence and Machine Learning, Algorithms Correctness and Efficiency
- Achievements: High Achievers Scholarship

## Research Experience

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Research Interest: Data Science, Machine Learning, Statistical Modelling, Financial Time Series Analysis, Risk Analysis

**Research Assistant (Teaching & Learning Grant)**

2022.12 – 2023.05

- Research Title: Improving Students' Engagement in Learning Mathematics via Automated Assessment System
- To create algorithmic and interactive mathematics assessment for providing personalized learning experience to students.
- To analyze whether the new assessment system improves students' confidence and engagement in solving problems.
- Software used: LaTeX, Maxima, Python

**Hill Cipher Modifications: A Linear Algebraic Approach**

2022.06 – 2022.09

- Supervisor: Dr. Chee Wing Loon
- Conducted in-depth literature review of highly influential papers in the field of Cryptography, Linear Algebra and Number Theory.
- Critically analyzed the Hill Cipher cryptosystem and its various improvements proposed in past research.
- Proposed a new schema with improved security using the concept of "non-linearity, dynamicity and dependency".
- Drafted journal paper to be published in 2023.

**Statistical Machine Learning and Predictive Financial Risk Modelling**

Part-time

- To regularly review journals in the field of Statistical Machine Learning, Data Science and Financial Risk Management.
- To understand what finance technologies are in high demand and to explore research gaps for future research.

## Work Experience

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**AirClass Mathematics Tutor**

2021 – 2022

- Delivered one-to-one maths lessons for IGCSE / A Level students, resulted in significant improvements in grades.
- Applied various teaching techniques and assessment methods to improve student's understanding and confidence in mathematics.

**OopDevs Web Developer**

2019 – 2021

- Developed open-source community-based web applications using HTML, CSS, JavaScript and Python (web server).

## Positions of Responsibilities

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**School Representative**

2021 – 2024

- Conducted Learning Community Forum with lecturers to improve teaching quality and student's learning experience.
- Revised on module contents and provided constructive feedbacks for school to improve course structure.

**AIIESEC People Management Director**

2022 – 2023

- Conducted weekly data analysis to review the performance of members and to understand the trend of Key Performance Index (KPI).
- Organized monthly review and discussion session to improve membership experience and boost skill acquisition.

## **Skills**

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- **Technical Skills:** Programming (Python, Java, R), Statistical Analysis, Literature Review, Microsoft Office
- **Language:** Mandarin (native), English (full professional proficiency), French (elementary)
- **Certificate:** Google Data Analytic (Coursera)