



Doungporn (Sam) Wiwatnapataphee



PhD student in the Mathematics and Statistics discipline at Curtin University, Western Australia, researching optimisation of energy storage systems and trading mechanisms using blockchain platforms. Experienced in teaching and research, with two years of delivering tutorials, workshops, and computer labs across seven finance, mathematics, and statistics units at Curtin University. Also taught two units in industrial optimisation at Yanshan University, China, as part of the Curtin–Yanshan joint program. Highly organised and detail-oriented data scientist skilled in Python, R, and MATLAB for data management, visualisation, analysis, and AI/ML forecasting. Keen interest in cloud-based web development and data-driven applications.

PhD Student in Maths & Stats

Data Science Graduate
Actuarial Science Graduate

Perth, Western Australia Bangkok, Thailand

Languages: Thai (Native), English

dwiwat97@gmail.com
275287a@curtin.edu.au

Education

Jan 2022 - May 2025 PhD in Mathematics and Statistics Curtin University

Work Experience

Curtin University

Perth, Western Australia

Sessional Academic and Invigilator

July 2023 - Present

	Subject	Role
2024 - present	Economics at YSU Fundamental concepts in micro and macroeconomics, including policy modeling and business strategy	Lecturer
2025 - present	Supply Chain Modelling and Optimisation at YSU Optimisation and forecasting techniques in logistics, operations, and network design	Lecturer
Semester 1, 2025	Introduction to Scientific Data Analysis Fundamental concepts in data analysis using Excel and R	TA (Computer lab)
Semester 1, 2025	Introduction to Probability and Data Analysis Core probability and statistical data analysis using R	TA (Computer lab)
Semester 2, 2024	Financial Engineering Principles of financial economics for application in finance and investment portfolios	TA (Tutorial)
Semester 2, 2024	Calculus for Engineers MATLAB-based problem-solving related to calculus and its applications in engineering	TA (Computer lab)
Semester 2, 2024	Linear Algebra and Statistics for Engineers Linear algebra, data analysis and statistical inference through R and MATLAB-based exercises	TA (Computer lab)
Semester 2, 2024	Accelerated Mathematics for Engineers Calculus, linear algebra, statistics, and techniques used in solving problems arising in engineering and related fields	TA (Workshop)
Semester 2, 2023	Foundations of Calculus Differential and integral calculus for several types of problems, as well as trigonometric equations	TA (Workshop)

Research assistant

Feb - Nov 2018

- Carried out research on bridge structural analysis, involved solving differential equation using Finite Element method. The research output was published in 2019.

Thanachart Insurance PCL

Bangkok, Thailand

Thesis title: Blockchain-based Renewable Energy Trading and Storage Optimisation

Jul 2019 - Jun 2021
Master of Data Science with Distinction
The University of Western Australia

Feb 2016 - Dec 2018
Bachelor of Science (Actuarial Science)
Curtin University

2015 Year 12 WACE Program
Canning College

* Skills

Statistical Data Analysis & Machine Learning

100%

Mathematical Optimisation

95%

Financial Modelling, Risk analysis & Management

90%

Web Development

85%

⚙️ Technical

Python, R, MATLAB, LaTeX

100%

HTML, CSS, JavaScript

90%

Unix, Shell, Linux, C/C++

85%

Tableau, SQL

80%

Intern Researcher

Dec 2018 - Feb 2019

- Conducted research on risk analysis and management, customer retention, and renewal rates for motor insurance using advanced statistical methods
- Developed insurance dashboards using Tableau that outline a company's key performance indicators (KPIs), which makes it easier to access, monitor, and get actionable insights

🧪 Research

Publication	Year
Wiwatanapataphee, D., Khajohnsaksumeth, N. & Wu, Y.H. Effect of beam joinery on bridge structural stability. <i>Adv Differ Equ</i> 2019, 225 (2019). https://doi.org/10.1186/s13662-019-2158-5	2019
Wiwatanapataphee, D. & Wu, Y.H. Fractional Optimal Control for Community-Shared Battery Energy Storage Systems Under Stochastic Dynamics. <i>AIMS Mathematics</i> .	(2025, Under Review)
Wiwatanapataphee, D., Wu, Y., Sawangtong, W. & Sawangtong, P. Modeling Anomalous Diffusion and Volatility in the Australian National Electricity Market Using a Space-Fractional Black-Scholes Framework. <i>AIMS Mathematics</i> .	(2025, Under Review)
Sawangtong, W., Wiwatanapataphee, D. & Sawangtong, P. Analytical Solution of Space-Fractional Black-Scholes Equation for European Put Option via Extended Caputo Derivative. <i>AIMS Mathematics</i> .	(2025, Under Review)

🏛️ Awards & Achievements

- Actuaries Institute foundation program exemption of CT1 Financial Mathematics; CB1 Business Finance; CS1 Actuarial Statistics; CB2 Business Economics; CM2 Financial Engineering and Loss Reserving in 2021
- Research Training Program (RTP) Scholarship January 2022 - June 2025, Curtin University
- Curtin Science and Engineering (SAE) Summer Scholarship 2018, Curtin University
- Course Completion Certificate "MATLAB Onramp" 2025, MathWorks Training Services
- Certificate of Completion "2024 Summer School - AI Intensive Bootcamp", VP Akkodis Academy Australia
- Certificate of Completion "Python Essential Training" 2020, LinkedIn
- Certificate of Completion "Learning Python" 2019, LinkedIn
- Certificate of Completion "Statistical Tools for Risk Modelling" 2018, Actuarial Science, Thammasat University

