FACULTY OF COMPUTER SCIENCE AND MATHEMATICS

STOCHASTIC AND FINANCIAL ANALYSIS (SOFIA)

DR. HANANI FARHAH HARUN

SENIOR LECTURER

Dr Hanani's research focuses on financial modelling, particularly in portfolio optimization. She explores the integration of Islamic finance principles and advanced statistical methods, such as ARIMA and Support Vector Regression, to enhance financial forecasting and decision making. Additionally, she is interested in leveraging AI and machine learning to address non-Gaussian asset behaviors and drive innovation in sustainable/green finance.

RESEARCHER PROFILE

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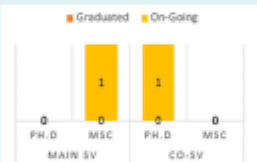
EDUCATION

- PhD. in Computational and Theoretical Sciences (Financial Mathematics), IIUM
- MSc. in Computational and Theoretical Sciences (Financial Mathematics), IIUM
- BSc. in Computational and Theoretical Sciences, IIUM

AREAS OF EXPERTISE

- Financial Modelling and Forecasting
- Derivatives Pricing
- Islamic Finance
- Sustainable Investments

SUPERVISION



COLLABORATORS

USIM

BSI BANK SYARIAH INDONESIA

BURSA MALAYSIA

UNIVERSITI MALAYSIA KELANTAN

SELECTED RESEARCH PROJECTS

- Fundamental Research Grant Scheme (FRGS) from Ministy of Higher Education Malaysia. PIONEERING INTEGRATED SUPPORT VECTOR REGRESSION AND MEDIAN VARIANCE OPTIMISATION MODEL FOR ENHANCING GREEN INVESTMENT OPTIMISATION. (2024 - 2026) RM106,200.
- DANA INSENTIF GERAN PENYELIDIKAN AKADEMIK UMT (2022-2025) RM10,000
- Peranan Kerajaan dan Bank Terhadap Prestasi Pembayaran Balik Pinjaman PKS Semasa Pandemik Covid-19 (2024-2026). RM70,000

SELECTED PUBLICATIONS

- Kurniati, A. B., Bakar, M. A., Ibrahim, N. F., & **Harun, H. F.** (2025). Enhancing artificial neural network learning efficiency through Singular value decomposition for solving partial differential equations. Results in Applied Mathematics, 25, 100522. Scopus, Q2.
- **Harun, H. F.**, Sarman, M. A., & Kamaruddin, S. H. (2024). Determinants of Islamic Financial Literacy in OIC Countries: A Comprehensive Systematic Review and Analysis. Journal of Economic Cooperation & Development, 45(1). Scopus, Q2.
- **Harun, H. F.**, Bakar, M. A., & Abdullah, M. H. (2024). Semiparametric Option-Implied Information and Median-Variance Approach: A Game-Changer in Integrating Sustainable Practices in Portfolio Optimization. International Journal of Sustainable Development & Planning, 19(6). Scopus, Q2.
- **Harun, H. F.**, & Abdullah, M. H. (2020). Option-Implied Adjusted Volatility Using Modified Generalised Leland Models: An Empirical Study on Dow Jones Industrial Average Index Options. Malaysian Journal of Mathematical Sciences, 14. Scopus, Q4.
- **Harun, H. F.**, & Abdullah, M. H. (2021, July). Correcting for risk premium on Extended Generalised Leland Models: an empirical study on Dow Jones Industrial Average (DJIA) index options. In Journal of Physics: Conference Series (Vol. 1988, No. 1, p. 012045). IOP Publishing. Scopus, Q4.

"Empowering sustainable growth through innovative financial models, fostering knowledge, and shaping the future of research with technology-driven solutions."