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# ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN TRADING (PART 1)

**16 NOVEMBER 2022**
8.30PM - 10.30PM

CPE Points Earned:
5 CPE Points

LIVE
For more details, visit
**www.sidc.com.my**

DERIVATIVES PROGRAMMES FOR **PROFESSIONALS**          This initiative is supported by the **Capital Market Development Fund (CMDF)**

## WHAT IS THE PROGRAMME ALL ABOUT?

The economic significance of artificial intelligence (AI) is a fundamental question investors face. With the world's top hedge funds using machine learning (ML) to find new investment opportunities, it is imperative for investors to know what kinds of financial applications may be leveraged by this constantly evolving technology. With the exponential growth in data, AI is arguably the best tool to ingest, decipher and learn the patterns of the financial markets.

In the first part of the programme, we will examine the various ways in which artificial intelligence could be used to improve investment outcomes by enhancing investor insights. The focus will be on how AI is being applied in major financial institutions and funds.

We start with the fundamentals of machine/deep learning so that the participant will have a strong foundation to understand how neural networks work and be able to extrapolate to more complicated use cases. As deep learning systems become increasingly complex, this will require a greater emphasis on the understanding of how the underlying algorithms work.

We then cover case studies using papers/books written by the top hedge funds and sell side banks. We will peek into how the world's smartest minds in finance are modelling the financial markets, which is notoriously hard to mine due to its low signal to noise ratio.

## WHAT DO WE WANT TO ACHIEVE?

This programme is designed to provide participants with an introduction and thematic discussion on the application of AI and ML techniques in trading and its other significant use in the capital market.

## WHAT WILL YOU LEARN DURING THE PROGRAMME?

Upon completion of this programme, participants will be able to:
- Explain what AI/ML is and how it can be used in trading and investing
- Discuss broad different ML categories, including supervised, unsupervised and deep learning
- Describe the trends and significance AI and ML in the financial markets
- Examine the use cases of machine learning for investing in capital markets

## COMPETENCIES

- Foundational (Product) - Capital Market Products (Level 3)
- Functional (Technical) - Digital Technology Application (Level 3)
- Functional (Process) - Derivatives dealing (Level 3)

## ABOUT THE SPEAKER

**Yi Peng**
Senior Quantitative Strategist

Yi Peng is a Senior Quantitative Strategist at a sovereign wealth fund. His primary research mandate involves applying deep/machine learning to identify trading signals across different asset classes/geographies. He loves the speed of innovation in machine learning, and hopes to apply cutting edge research to quantitative finance/ financial data science. With a passion for teaching and sharing his love of the subject, he has taught machine learning classes at Singapore Management University (SMU) and online via the No Code Course. Yi Peng graduated with a Masters in Artificial Intelligence and Double Bachelors in Finance and Accounting from SMU.

## PROGRAMME OUTLINE

8.30pm - 10.30pm

**Introduction to AI and Machine Learning**
- Background and intuitive understanding of Deep/Machine learning
- How it can be used to solve problems in trading and investing

**Different ML methods**
- Supervised Learning
- Unsupervised Learning
- Deep learning
- Semi/Self Supervised Learning

**Application of Machine Learning in Capital Markets**
- Market Prediction
  - Automating Technical Analysis/Visual Inspection of Charts
  - Deep learning applications to predict stock returns
- Risk Management - Unsupervised methods and structural break detection
- Sentiment Analysis - Systematic and accurate financial sentiment analysis
- Meta Labeling/Quantamental - Augmenting fundamental analysis with machine learning