



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

## **PHD STUDENT SEMINAR**

# **Pricing Non-Fungible Token (NFT) with Vector Autoregressive Moving Average (VARMA) Model**

By

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### Abstract

In the ever-evolving digital landscape, Non-Fungible Tokens (NFTs) have emerged as distinctive assets, each representing a unique piece of digital content. These NFTs span a wide spectrum, from digital art and music to virtual real estate and collectibles. Despite their growing popularity, pricing NFTs remains a complex puzzle, influenced by a delicate interplay of market dynamics, investor sentiment, and technological advancements. Traditional financial models fall short when it comes to capturing the variations of NFT valuation. These tokens defy conventional methods of assessment due to their inherent uniqueness and scarcity. Recognizing the need for a more robust pricing framework, we propose an innovative approach: the Vector Autoregressive Moving Average (VARMA) model. The VARMA model leverages both time series data and qualitative feature factors to predict the floor price of NFT projects. By incorporating information from platforms like EtherScan, NFTGO, CoinMarketCap, OpenSea, and social media sentiment data from X, the VARMA model demonstrates its ability to capture cross-correlations between feature variables. This enhanced accuracy in pricing predictions is crucial for investors, creators, and collectors navigating the dynamic NFT market.

**Date : 28 May 2024 (Tuesday)**

**Time : 9:30am**

**Venue : Room 1409 (Lifts 25-26)**

*All are Welcome!*