



DIFT2025-2

ICDI International College of
DIGITAL INNOVATION
CHIANG MAI UNIVERSITY

**Digital Innovation and Financial
Technology Conference (2025-2)**

ABSTRACTS BOOK

**Innovating Finance in the Age
of AI: Balancing Automation
and Human Insight**

4th October 2025

International College of Digital Innovation
Chiang Mai University
Chiang Mai, Thailand



DIFT2025-2

Digital Innovation and Financial
Technology Conference 2025 (Round 2)
October 4th, 2025



ICDI International College of
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PREFACE

This abstract booklet contains the abstracts of the papers presented at the DIFT 2025-2 Conference, organized by the International College of Digital Innovation, Chiang Mai University. The conference will be held at the International College of Digital Innovation Building, Chiang Mai, Thailand, on 4 October 2025.

The aim of this conference is to bring together policymakers, researchers, and professionals in the fields of digital innovation and financial technology to exchange ideas, share experiences, and foster meaningful discussions. Participants from academia, industry, research institutions, R&D enterprises, and governmental organizations are invited to contribute and collaborate on a wide range of topics relevant to digital innovation, financial technology, and policy development. While the main theme focuses on “Innovating Finance in the Age of AI: Balancing Automation and Human Insight,” the conference also welcomes contributions from related and emerging areas.

All submitted abstracts have been reviewed by the DIFT 2025-2 Scientific Committee for academic quality and presentation clarity. Further details about the conference can be found at: <https://icdi.cmu.ac.th/DIFT/2025-2/>

We would like to extend our sincere gratitude to all committee members, reviewers, and contributors. We wish everyone a rewarding and engaging experience at DIFT 2025-2.

DIFT 2025-2 Organizer
October 2025

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SCHEDULE

DIFT2025-2

Innovating Finance in the Age of AI: Balancing Automation and Human Insight

4 October 2025, 08:00–16:00

International College of Digital Innovation Building, Chiang Mai University

Room: ICB 1102 [Zoom ID: 872 909 2671, Passcode: 2671]	
08:00 - 08:45	Registration
08:45 - 08:50	Welcome Remarks by Assoc. Prof. Dr. Somchai Sriyab Associate Dean, International College of Digital Innovation
08:45 - 09:00	Opening Speech by Asst. Prof. Dr. Rujira Ouncharoen Dean, International College of Digital Innovation
09:00 - 10:00	Keynote Talk: “The International Monetary Fund (IMF) and the Role of Macroeconomic Statistics in Economic Policymaking and Analyses” by Mr. Tobias Mostert Wickens Expert in Macroeconomic Statistics, International Monetary Fund (IMF)
10:00 - 10:30	Refreshment Break
10:30 - 11:50	Contributed Talk Break Room (Morning Session)
11:50 -13:00	Lunch Break
13:00 - 14:20	Contributed Talks (Afternoon Session)
14:20 – 14:40	Refreshment Break
14:40 - 14:50	Reward Announcement
14:50 - 15:00	Closing Ceremony

CONTRIBUTED TALK SCHEDULE

	Room: ICB 1102 [Zoom ID: 872 909 2671, Passcode: 2671]	Room No. 2 (ICB1211) [Zoom ID: 872 909 2671, Passcode: 2671]
	<p>Session Committees: Dr. Watcharin Sarachai Dr. Nuttaphat Sukchitt Dr. Parot Ratnapinda Dr. Michael John Harris</p>	<p>Session Committees: Assoc. Prof. Dr. S P Gayathri Asst. Prof. Dr. Kittawit Autcharyapanitkul Dr. Phillip Y Freiberg Dr. Siva Shankar Ramasamy</p>
10:30 - 10:50	<p>A Trust Analysis of Curve and Uniswap in Stablecoin Trading Based on the Invariant of AMMs</p> <p><i>Li Li and Nathapon Udomlertsakul</i></p>	<p>Enhancing Project Governance through Case-Based Reasoning at Strategic Control Points</p> <p><i>Tao An and Thacha Lawanna</i></p>
10:50 - 11:10	<p>Cross-Market Overreaction in Cryptocurrency Using Extreme One-Day Price Movements</p> <p><i>Waewwan La-onsri and Nathee Naktnasukanjn</i></p>	<p>Intelligent Estimation of Building Costs Through Case-Based Reasoning Approach</p> <p><i>Tu Xinyi and Thacha Lawanna</i></p>
11:10 - 11:30	<p>Incentive-Governance Model for Artistic Digital Products Based on Blockchain Copyright Ecosystem</p> <p><i>Jiali Mao and Nathapon Udomlertsakul</i></p>	<p>The Impact of Short Baking Videos on Consumers' Purchase Intentions in the Digital Economy</p> <p><i>Zhiliang Zhang and Naret Suyaroj</i></p>
11:30 - 11:50	<p>Motif-Derived Input Features Enhance Node-Level Fraud Detection on Cryptocurrency Transaction Networks</p> <p><i>Tong Yang and Worawit Tepsan</i></p>	<p>Battery Aging Doesn't Have to Be a Black Box: An Adaptive Learning Framework for Degradation-Aware Electric Vehicle Range Prediction</p> <p><i>Jie Niu and Naret Suyaroj</i></p>
11:50 - 12:10		<p>Measuring Filtering Bubble Effects in DOUYIN-Platform Environments: Scale Development and Validation</p> <p><i>Lin He and Michael John Harris</i></p>
11:50 - 13:00	Lunch	



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CONTRIBUTUED TALK

A TRUST ANALYSIS OF CURVE AND UNISWAP IN STABLECOIN TRADING BASED ON THE INVARIANT OF AMMS

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ABSTRACT

Decentralized exchanges (DEXs) like Curve and Uniswap are central to Decentralized Finance (DeFi), especially for stablecoin trading that requires both efficiency and dependable trust mechanisms. We compare Curve and Uniswap across four trust dimensions: security, liquidity, cost-effectiveness (fees), and reliability, using the May 2022 UST depegging event as a case study. We combine quantitative data analysis of Total Value Locked (TVL) and trading volume from DeFiLlama (2025) with qualitative insights from Chainalysis reports (2022, 2023). Our findings reveal distinct trust profiles. Curve provides lower fees and deep liquidity, making it more cost-efficient for stablecoin swaps, but it also shows notable vulnerability to security exploits. Uniswap, while generally more expensive, has a stronger security record and broader liquidity base, supporting its reliability even under regulatory scrutiny. The study offers practical guidance for three audiences: users choosing between platforms, developers seeking to improve protocol resilience, and regulators assessing systemic stability in DeFi. Methods include Pearson correlations of TVL and UST price and a 7-day rolling volatility measure derived from log-returns.

KEYWORDS: Decentralized Finance, Automated Market Maker (AMM), Trust Analysis, Stablecoin, Curve Finance, Uniswap, Security, Liquidity

CROSS-MARKET OVERREACTION IN CRYPTOCURRENCY USING EXTREME ONE-DAY PRICE MOVEMENTS

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ABSTRACT

This study investigates overreaction in the cryptocurrency market by examining the impact of extreme one-day price movements in related financial markets, particularly stocks and foreign exchange (Forex). The primary objective is to determine whether cryptocurrencies such as Bitcoin (BTC), Ethereum (ETH), and Binance Coin (BNB) exhibit significant overreaction behavior following large price changes, and whether cross-market spillover effects are amplified when both stock and Forex markets experience extreme movements simultaneously. Overreaction is operationalized through the analysis of abnormal returns in cryptocurrencies after extreme market events, drawing on behavioral finance theories that emphasize the role of investor psychology, cognitive biases, and emotional factors. While existing research has examined volatility, spillovers, and interconnections across asset classes, most studies focus on stocks, foreign exchange, and commodities, with limited attention to the volatile cryptocurrency market. Few studies specifically analyze one-day extreme price movements or the behavioral mechanisms driving such reactions, leaving a gap in understanding how sudden shocks in traditional markets trigger overreactions in cryptocurrencies. The findings aim to contribute to the literature by providing new evidence on cross-market interactions and behavioral responses in digital asset markets. The results also underscore the importance of tailored risk assessment frameworks and offer practical insights for investors seeking to optimize portfolio diversification, improve risk management, and identify periods of heightened cross-market overreaction.

KEYWORDS: Cryptocurrency Market, Overreaction, Cross-Market Spillover, Abnormal Returns, Behavioral Finances

INCENTIVE-GOVERNANCE MODEL FOR ARTISTIC DIGITAL PRODUCTS BASED ON BLOCKCHAIN COPYRIGHT ECOSYSTEM

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ABSTRACT

With the continuous development of the digital economy, digital collections are gradually emerging in the economic market, and the importance of the digital collections industry in the development of the digital economy market is becoming more and more prominent. However, due to both legal and economic constraints, Chinese digital collectibles are still facing many difficulties in terms of rights and copyright protection. Blockchain technology provides a promising solution for the copyright protection of digital products, offering the possibility and technical guarantee for the increased circulation of Chinese digital copyright products. However, based on China's current legal regulatory environment, Chinese digital collections cannot be directly traded with international digital collections; at the same time, the existing digital product copyright protection programs based on single chain or alliance chain still have many defects, such as inefficient system processing, poor scalability, and out of touch with the actual business needs. In order to solve the dilemma of international circulation of China's digital collections and improve the circulation of digital copyright products, this paper aims to explore a more open, fluid, safe and efficient copyright protection and trading scheme for digital assets and the endogenous dynamics of the digital asset economy by comparing the interpretation of the laws related to digital copyright products in China and the United States and by researching the ecological incentive mechanism on the blockchain chain. Based on the existing compliance laws related to copyright and digital copyright protection in China and the United States, the research method of transaction mechanism and incentive mechanism for cross-regional digital copyright products is proposed.

KEYWORDS: Digital Products, Digital Assets, Copyright, Digital Rights, Blockchain, Tokenization, Incentives, Copyright Protection

MOTIF-DERIVED INPUT FEATURES ENHANCE NODE-LEVEL FRAUD DETECTION ON CRYPTOCURRENCY TRANSACTION NETWORKS

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ABSTRACT

Detecting anomalous activity in cryptocurrency transaction networks (nodes are addresses; directed edges denote transfers) is challenging because of extreme class imbalance and the limited structural sensitivity of shallow graph neural networks. We present an input-level augmentation that concatenates motif-derived structural features (MDSF) to raw node attributes. Seven direction-aware predefined motifs and three data-driven structural codes—selected on the training split and then frozen—are counted once on the static Elliptic graph and normalised, producing a 103-dimensional input from the original 93 features. The design is architecture-agnostic, requires lightweight one-off precomputation, and leaves backbone architectures unchanged. Under identical protocols (three seeds), MDSF improves PR-AUC by +4.8 pp on GAT and +1.3 pp on GCN, indicating that compact structural counts complement routine message passing. Ablations show that predefined motifs alone deliver about 6 pp PR-AUC gains across backbones, whereas data-driven codes are sensitive to temporal dataset shift—useful when distributions remain stable but less so otherwise. We provide a minimal reproducibility bundle (scripts, seeds, hyperparameters, split indices) to regenerate the main tables. The current scope is node-level detection; coordinated, subgraph-level fraud may remain under-detected. Future work includes adaptive or periodically refreshed motif mining for streaming ledgers and extending the framework to subgraph-level anomalies.

KEYWORDS: Blockchain, Cryptocurrency Transaction Networks, Anomaly Detection, Graph Neural Networks, Structural Motifs

ENHANCING PROJECT GOVERNANCE THROUGH CASE-BASED REASONING AT STRATEGIC CONTROL POINTS

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ABSTRACT

Strategic control is crucial in project governance for aligning initiatives with organizational goals and enabling timely, efficient decisions. Traditional models such as Waterfall, PRINCE2, Stage-Gate, and Earned Value Management often lack adaptability in dynamic environments. This paper proposes a Case-Based Reasoning (CBR) framework that enhances governance by learning from past project experiences. The model follows four phases: Retrieval, Reuse, Revision, and Retention, allowing context-aware decisions based on historical patterns. Experiments using five datasets (PM, SP, COCOMO, JSS, OR) show that CBR achieves high case retrieval accuracy (up to 0.91), solution adaptation success (up to 0.92), governance outcome improvement (up to 36.42%), and reduced decision time (up to 23.91%). This study introduces a flexible, data-driven governance model that improves responsiveness and supports continuous learning, demonstrating CBR's potential as a transformative approach for effective decision-making in complex and uncertain project environments.

KEYWORDS: Case-Based Reasoning, Project Governance, Strategic Control, Decision-Making, Adaptability, Project Management

INTELLIGENT ESTIMATION OF BUILDING COSTS THROUGH CASE-BASED REASONING APPROACH

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ABSTRACT

Accurate building cost estimation remains challenging due to dynamic variables such as material prices, labor, location, and regulatory changes. Traditional models which concern Quantity Surveying, Parametric Estimation, Regression Analysis, and Analogous Estimation often fail to address real-world complexities, resulting in inaccurate forecasts and financial risk. This study proposes a Case-Based Reasoning (CBR) model that leverages historical project data for flexible, context-aware predictions. The four-phase CBR cycle includes: (1) Retrieve similar cases via weighted similarity, (2) Reuse by adapting cost components, (3) Revise using expert or market input, and (4) Retain the new case to enhance learning. Experiments on five benchmark datasets show CBR achieves the lowest MAPE (7.2%-9.7%), outperforming Regression (9.8%-12.4%) and Quantity Surveying (up to 16.1%). CBR also showed better adaptability (4.8-5.0) and learning efficiency (10-14% gains). This paper contributes a knowledge-driven estimation framework and offers a practical, intelligent tool for modern construction management.

KEYWORDS: Case-Based Reasoning, Cost Estimation, Construction Management, Adaptive Systems, Machine Learning, Project Forecasting

THE IMPACT OF SHORT BAKING VIDEOS ON CONSUMERS' PURCHASE INTENTIONS IN THE DIGITAL ECONOMY

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ABSTRACT

This study applies the Stimulus–Organism–Response (SOR) model and the dual-value framework to examine how sensory appeal and social interactivity in baking-related short videos influence consumers' purchase intentions. Survey data from 201 valid respondents were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Results indicate that sensory appeal indirectly influences purchase intention via perceived hedonic value, while social interactivity both enhances perceived utilitarian value and directly drives purchase intention. Utilitarian value shows a stronger effect than hedonic value, highlighting practical utility as a key driver in content combining functionality and enjoyment. These findings extend the SOR model's application to short-form video marketing and provide actionable guidance for integrating aesthetic appeal with interactive, informative features. Limitations include the China-only sample and category-specific focus, suggesting future research across broader regions and product contexts.

KEYWORDS: Short-Form Video, Baking Videos, SOR Model, Hedonic Value, Utilitarian Value, Purchase Intention

BATTERY AGING DOESN'T HAVE TO BE A BLACK BOX: AN ADAPTIVE LEARNING FRAMEWORK FOR DEGRADATION-AWARE ELECTRIC VEHICLE RANGE PREDICTION

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ABSTRACT

Battery aging has long been a critical yet poorly quantified "black box" undermining the accuracy of electric vehicle (EV) range prediction. Traditional models have often neglected these dynamic degradation effects, resulting in driver anxiety and suboptimal energy management. In an attempt to demystify this black box, we introduce a novel adaptive learning framework that harnesses large-scale, real-world driving data from a heterogeneous vehicle population. Our approach incorporates three key innovations: (1) a non-invasive State-of-Health (SOH) estimation method that deduces battery capacity from the slope analysis of routine charging curves; (2) an Adaptive Hybrid Dynamic Energy Consumption Model (AHDECM) that integrates reinforcement-learned aging compensators and Bayesian context-switching to dynamically adjust to degradation; and (3) a quantified model of the SOH-range dependency, which reveals that a 10% capacity loss leads to a $15.7 \pm 2.3\%$ range reduction—a loss that is amplified to 22.1% in sub-zero temperatures. Validated on extensive real-world operational records, our framework demonstrates an 89.5% improvement in range prediction accuracy (9.5% MAPE) over state-of-the-art models and achieves 87.2% precision in SOH estimation using only operational data. Moreover, it enables real-time, degradation-aware prediction with edge-deployable efficiency (32ms latency) and facilitates a 27% cost reduction through aging-optimized charging scheduling. Our analysis uncovers dominant degradation interactions, indicating that low temperatures accelerate aging-induced range loss ($r = -0.83$) and that high-speed cycling degrades batteries $2.3\times$ faster than urban driving. Fleet-scale validation affirms the model's robustness, with less than 5% of vehicles requiring recalibration. This work conclusively demonstrates that battery aging does not have to remain a black box and offers a pivotal, adaptive framework for bridging the real-world range prediction gap.

KEYWORDS: Battery Degradation Modelling, Degradation-Aware Range Prediction, Electric Vehicle, Real-World Driving Data

MEASURING FILTERING BUBBLE EFFECTS IN DOUYIN-PLATFORM ENVIRONMENTS: SCALE DEVELOPMENT AND VALIDATION

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ABSTRACT

Algorithmic recommendation has become the primary means of information delivery in today's social media landscape. Prolonged exposure to algorithms can lead users to develop cognitive biases, algorithmic dependency, and content homogeneity, potentially contributing to the "filter bubble" effect. When I.E. Pariser proposed the filter bubble effect, it was merely a hypothesis and not empirically tested. Whether filter bubbles exist and to what extent have become a hot topic in communication research. This study aimed to develop a robust and effective scale to measure the "filter bubble" effect of algorithmic recommendation on the Douyin platform. Through extensive literature research and questionnaire surveys, this study refined the "Information Cocoon Effect: A Three-Level Dependent Variable Measurement Scale" proposed by Yu Xin's team at Tsinghua University. Based on social cognitive theory, the scale proposes three dimensions: content homogeneity, negative interference, and cognitive bias, totaling nine items. Measurements revealed that the three factors of the scale exhibited good reliability and validity, and exhibited a strong exploratory factor clustering effect. Factor loadings were all greater than 0.7, the cumulative variance explained after rotation was 73.440%, the average variance extracted (AVE) for each factor exceeded 0.5, and the composite reliability (CR) exceeded 0.7. The structural equation was consistent with the initial hypotheses. The results show that the scale has good reliability and validity, and can effectively measure the existence and extent of the filter bubble effect, providing a valuable tool for empirical research on filter bubbles.

KEYWORDS: Filter Bubble, Algorithm Recommendation, Douyin, Scale Development

