# Ho Chiok Yew (C.Y. Ho)

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## SUMMARY

Born and raised in Malaysia, I am a driven undergraduate student pursuing a double degree in Electrical Engineering and Economics at National Taiwan University. I have developed a strong academic foundation and practical experience in various fields, including recommendation systems, language processing, data mining and finance. I am actively seeking opportunities in the areas of data science, machine learning, deep learning, finance and economics.

## EDUCATION

**NATIONAL TAIWAN UNIVERSITY (NTU)**                     *Current GPA: 3.82/4.00 (88.67%) | Sept 2019 - Jul 2024 (anticipated) | Taipei*

B.S. IN ELECTRICAL ENGINEERING, COLLEGE OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

B.A. IN ECONOMICS, COLLEGE OF SOCIAL SCIENCES

## EXPERIENCES

**IDSSP LAB (INTERDISCIPLINARY DATA SCIENCE AND SIGNAL PROCESSING LAB), NTU**     *Feb 2021 - Present | Taipei*

UNDERGRADUATE RESEARCHER (UNDER THE SUPERVISION OF PROF. CHE LIN)
• Studied and worked on a temporal and contextual trend-aware transformer-based push notification recommendation system that allows news platforms to disseminate articles to users through push notification services (PNS) by considering user's temporal and contextual preferences with the interplay of short-term global preferences (a collaborative work with partnering company AviviD).

**INSTITUTE OF INFORMATION SCIENCE, ACADEMIA SINICA**                     *Jul 2022 - Sept 2023 | Taipei*

RESEARCHER INTERN AND PART-TIME RESEARCH ASSISTANT (UNDER THE SUPERVISION OF PROF. DE-NIAN YANG)
• Participated in research project of a graph-based user recommendation system applied in the extended reality (XR) spatio-temporal social network that aims to maximize overall user preference utility and visibility based on users' trajectories.

• Conducted research and implementations of diffusion model applied on conditional social network graph generation.

## SKILLS

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|---|---|
| PROGRAMMING LANGUAGES | ***Experienced:*** Python ***Familiar:*** R \| C/C++ \| MATLAB |
| FRAMEWORKS & LIBRARIES | Numpy \| Pandas \| Scikit-learn \| PyTorch \| LaTeX |
| LANGUAGES | ***Native (Bilingual):*** Chinese \| English ***Fluent:*** Cantonese \| Malay ***Beginner:*** French |

## SELECTED PROJECTS

**PROGRESSIVE KNOWLEDGE DISTILLATION FOR SPEECH SEMI-SUPERVISED LEARNING (SSL) MODELS**     *Jan 2023*

RESEARCH PROJECT FOR THE COURSE 'DEEP LEARNING FOR HUMAN LANGUAGE PROCESSING' INSTRUCTED BY HUNG-YI LEE
• Investigated the effectiveness of performing knowledge distillation by progressively distilling the forefront hidden layers in speech SSL models to a truncated student model on the evaluation performance in SUPERB benchmark tasks.

**TRANSITIONING FROM OPEN-DOMAIN DIALOGUES TO TASK-ORIENTED DIALOGUES**     *Jun 2022*

FINAL PROJECT FOR THE COURSE 'APPLIED DEEP LEARNING' INSTRUCTED BY YUN-NUNG CHEN
• Designed an automated conversational agent to attentively detect potential intents in utterances and perform gradual transitions to fulfill the task of interest such as closing a sale within the conversation by tackling the trade-off in conversational naturalness, relevance and aggressiveness (ranked 6/40 overall in peer manual evaluation).

**OPTIVER REALIZED VOLATILITY PREDICTION**     *Jul 2021*

PARTICIPATION IN KAGGLE COMPETITION AS A SUMMER ORIENTATION WORKSHOP ORGANIZED BY IDSSP LAB, NTU
• Performed pre-processing of financial data in Python and implemented various machine learning and deep learning models for stock price realized volatility prediction such as gradient-boosting decision trees and neural networks.

• Studied and experimented with various financial and statistical indicators for further improvements in model prediction performance.

## TEACHING ASSISTANCE

• Linear Algebra (2023 Fall, instructed by Hung-yi Lee), NTU.

## ACADEMIC PARTICIPATION

• Machine Learning Summer School (MLSS2021), *Taipei, Taiwan*.

• A Brief Discussion on Brownian Motion and Related Processes with Applications (NCTS2023), *Taipei, Taiwan*.

## RELATED COURSEWORK/MODULES

**PROGRAMMING/CS**    Computer Programming (with Lab)  | Algorithms  | Data Structures  | Computer Architecture

**MATH/STATS/SP**    Calculus (1-year)  | Differential Equations  | Linear Algebra  | Discrete Mathematics  | Game Theory[•]
Statistics and Econometrics (1-year)[•]  | Probability and Statistics  | Signals and Systems

**ML/DL/DS/AI**    Machine Learning[*]  | Applied Deep Learning[*]  | Deep Learning for Human Language Processing[*]
Data Science and Social Inquiry[•*]  | Application of Big Data System[*]

**ECONOMICS**    Principles of Economics (1-year)[•]  | Microeconomics (1-year)[•]  | Macroeconomics (1-year)[•]

**FINANCE**    Investment Theory[•]  | Financial Market and Derivatives[•*]  | Corporate Finance[•]  | International Finance[•]
Financial Engineering[•*]  | Predicting Financial Crises[•*]

**FINTECH**    Introduction to FinTech[*]  | Introduction to Decentralized Finance[*]  | Blockchain and Big Data[*]

## AWARDS/HONORS

- NTUEE 1960 Alumni Scholarship, NTU, 2020-2022.
- NTU Hope Bursary, NTU, 2020-2022.
- Overseas Student Outstanding Academic Performance Award (Class of 2023), Overseas Community Affairs Council (OCAC).

## EXTRA-CURRICULAR ACTIVITIES

**NATIONAL TAIWAN UNIVERSITY MALAYSIAN STUDENT ASSOCIATION (NTUMSA)**    *Sep 2019 – Sep 2021 | Taipei*
SOCIAL MEDIA AND INFORMATION COMMITTEE

- Managed social media platforms for the Association via content creation and inquiry responses.
- Disseminated information from school authorities to members via social platform posts.

## PUBLICATIONS AND MANUSCRIPTS

- [ICDE'24] Bing-Jyue Chen, **Chiok Yew Ho**, De-Nian Yang. 2024. "AFTER: Adaptive Friend Discovery for Temporal-spatial and Social-aware XR." To appear in *2024 IEEE International Conference on Data Engineering (ICDE)*.
- [ICASSP'24] Chu-Chun Yu, Ming-Yi Hong, **Chiok-Yew Ho**, Che Lin. 2024. "PUSH4REC: TEMPORAL AND CONTEXTUAL TREND-AWARE TRANSFORMER PUSH NOTIFICATION RECOMMENDER." To appear in *2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*.
- [arXiv:2311.01729] Jui-Yi Tsai, Ya-Wen Teng, **Ho Chiok Yew**, De-Nian Yang, Lydia Y. Chen. 2024. "CDGraph: Dual Conditional Social Graph Synthesizing via Diffusion Model." Under review for *2024 International Conference on Learning Representations (ICLR)*. Available as *arXiv* preprint.

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[*] indicates a graduate-level course. [•] indicates course of second major (Economics). [M·] indicates a manuscript