Ming-Hsiu (Matthew) Hu

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EDUCATION

National Chiao Tung University   **Hsinchu, Taiwan**
B.Sc. in Information Management and Finance   *09/2016 - 06/2020*
- Overall GPA 3.83/4.0 (Major GPA: 3.82/4.0; Last-60-credits GPA: 4.0/4.0)
- Math & Stats Coursework: Probability (EECS Honor Program), Linear Algebra, Statistics (I) (II), Mathematical Statistics, Operations Research (I), Calculus (I) (II), Discrete Mathematics
- CS Coursework: Deep Learning (ECE graduate-level course), Machine Learning, Data Mining, Advanced Programming (OOP), Data Structures, Database Management, Operating System, Business Data Communications
- Quant Finance & Econ. Coursework: Financial Engineering, Asset Pricing Theory, Financial Risk Management, Financial Econometrics, Futures and Options, Investments, Micro/Macroeconomics, Economics (I)(II)

WORK EXPERIENCE

KPMG   **Taipei, Taiwan**
Intern, IT Advisory & Risk Consulting   *10/2019 - 04/2020*
- Delivered AI governance methodology for internal control. Accepted by the IT team's Vice President
- Presented Industrial Risk Solutions with ISO27001 framework. Accepted by the Taiwan Water Corporation
- Assisted in Taiwan Bank IT system cybersecurity yearly advisory project

Bincentive Inc.   **Taipei, Taiwan**
Intern, Quantitative Trading & Back-end Development   *07/2019 - 10/2019*
- Developed quantitative trading strategies with 30%-40% annual return using Python
- Created a quantitative trading strategies management system using the Python (Django framework)
- Queried multiple timeframes trading data from exchanges by writing a Python API [GitHub]
- Automated VIP client's daily investment reports formation procedures using Python and Excel

RESEARCH EXPERIENCE

Large-Scale Portfolio Management Research Project   **Hsinchu, Taiwan**
Research Assistant   *02/2020 - 06/2020*
- Project Advisor: Prof. Huei-Wen Teng, Dept. of Information Management and Finance
- Collected and preprocessed each firm's fundamental data and macroeconomic indices for the training dataset
- Forecasted each firm's expected returns using 1D-CNN, LSTM, Lasso regression, and Ridge regression
- Constructed equally weighted portfolios that outperformed the SPX index in a 7-year return by 75%

National Chiao Tung University FinTech Center   **Hsinchu, Taiwan**
Research Assistant, Blockchain Project held by Concord Securities   *09/2017 - 07/2018*
- Developed a convertible bond trading system prototype using Ethereum Smart Contracts
- Developed two token trading contracts for the primary & secondary market using Solidity
- Designed and developed the trading system's front-end website using HTML/CSS/Bootstrap

LEADERSHIP

Department of Information Management and Finance   **Hsinchu, Taiwan**
Department Class Leader   *2016 – 2020*
- Served as a liaison between students, administration officers, and professors

Student Association of Department of Information Management and Finance   **Hsinchu, Taiwan**
Vice President, Public Relations Director, and Web Administrator   *09/2017 - 09/2019*
- Recruited and led the most prominent student association (47 students) of the department
- Organized 26 entertaining and academic activities to connect all the students and faculties
- Developed the first website for the student association: https://nctuimf.github.io/

Information Management and Finance Camp   **Hsinchu, Taiwan**
Course Team Leader and Event Coordinator   *2016 - 2018*
- Led 8 classmates to design programming, economics, and investments courses for high school students
- Designed and taught the C++ programming course for over 300 high school students

HONORS & AWARDS

National Chiao Tung University Dept. of Management, AACSB Global Evaluation   **Hsinchu, Taiwan**
Undergraduate Academic Representative Team Member   *06/2018*
- Selected as one of the undergraduate honor members based on holistic distinction performance
- Presented contents regarding undergraduate academic development during AACSB (Association to Advance Collegiate Schools of Business) international evaluations
- Helped retained 5-year AACSB international credential for Dept. of Management

APICTA (Asia Pacific ICT Alliance) Awards   **Dhaka, Bangladesh**
Taiwan Representative Team Member   *12/2017*
- Committed to improving underrepresented minorities' medical services procedures using our APP
- Received Taipei Computer Association's full sponsorship to attend APICTA Awards held in Bangladesh
- Presented ARCare, a medical APP we created, among worldwide students and industry experts

International ICT Innovative Services Awards   **Taipei, Taiwan**
National Chiao Tung University Representative Team Member   *06/2017 – 11/2017*
- Received double first place for The Asia Pacific team and The Taipei Innovative team competitions
- Created an integrated medical APP, named "ARCare," to optimize overall patient's personnel medical services using data mining algorithms, AR (Augment Reality), and IoT (Internet of Things)
- ARCare product's conceptual demonstration video: https://youtu.be/wayTKe9aXGo

ACADEMIC PROJECTS

Credit Default Prediction via Deep Time Series Features Extraction [GitHub]
- Project Advisor: Prof. Jen-Tzung Chien, Dept. of Electrical and Computer Engineering
- Revised traditional non-time dependency linear models dealing with the credit default problem
- Designed a novel hybrid deep learning model by classifying static and dynamic features
- Surpassed the non-time dependency model's performance with a testing accuracy of 80%

Kaggle Chinese News Titles Classification Competition [GitHub]
- Classified 10 different categories for the Chinese news titles
- Ranked within the top 18% (25th/146) in the final private leaderboard
- Reached a testing accuracy of 93.87% by constructing a multi-layered LSTM model

Convolution Neural Network for Mask Wearing Image Recognition [GitHub]
- Constructed a CNN network to classify residents' mask-wearing conditions (none, good, bad) using PyTorch
- Mitigated imbalanced data problem for the none category by employing data augmentation methods
- Reached a testing accuracy of 87.32% for classifying three categories (none, good, bad) using a deep CNN

Recurrent Neural Network for COVID-19 Worldwide Confirmed Cases Prediction [GitHub]
- Designed an RNN to predict the future trend of COVID-19 confirmed cases
- Subtracted partial country data by finding country pairs with high correlation coefficient (threshold = 0.7)
- Reached a testing accuracy of 76.29% for classifying two categories (increase, decrease) using GRU

Revised Day Trade Policies' Effects on Taiwan's Stock Market [GitHub]
- Project Advisor: Prof. Yin-Hua Yeh, Dept. of Information Management and Finance
- Researched on the four newly announced day trade policies' effects on Taiwan's stock market
- Identified lowering transaction taxes stabilized the market's overall behavior with statistical significance
- Responsible for data preprocessing, statistical models' construction, and oral presentation

Arbitrage Opportunities in Taiwan Futures and Options Markets [GitHub]
- Project Advisor: Prof. Tian-Shyr Dai, Dept. of Information Management and Finance
- Identified arbitrage opportunities by applying standard financial theorems (ex. Put-Call Parity) with C++

SKILLS & INTERESTS

Language: Mandarin (native), Hakka (native), English (fluent)
Skills: Python, SQL, R, C++, HTML/CSS, | PyTorch, Scikit-Learn | AWS, Git, Linux | LaTeX, MS Office
Interests: Swimming (varsity team candidate), Hiking, Coffee/Ramen Lover