Irene Hsueh

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EDUCATION

UCLA ANDERSON SCHOOL OF MANAGEMENT — Los Angeles, CA
Master of Science in Business Analytics (STEM) — Expected December 2023

UNIVERSITY OF CALIFORNIA, SANTA BARBARA (UCSB) — Santa Barbara, CA
Bachelor of Science in Financial Mathematics and Statistics (STEM) — September 2021

- Dean's Honors in Fall 2018, Fall 2020, and Winter 2020, Graduated with Honors (Top 20%)
- UCSB Taiwanese Student Association, Marketing Manager

TECHNICAL SKILLS

Languages: SQL, Python, R, SAS, C++, Tableau, LaTeX
Analysis & Modeling: Statistical Modeling, Regression Analysis, Machine Learning, Optimization, Sensitivity and Stress Testing, Customer Analytics, Operations Analytics, Data Visualization, Numerical Analysis, Mathematical Finance
Software: Amazon Web Services (AWS), Microsoft Azure, Excel, PowerPoint, Encompass

PROFESSIONAL EXPERIENCE

BLACK KNIGHT, *an Intercontinental Exchange Company* — Irvine, CA
Financial Engineering Consultant — November 2021 – June 2023

- Defined time-dependent scoring logics and functions to develop a customized Non-QM predictive model in C++, providing recommendations regarding credit risks and loss severity based on client's portfolio investment strategy
- Formulated logic to test existing model's ability to forecast prepayment and default risks of Non-QM loans by performing data segmentation and analysis in SQL, laying foundation for further Non-QM research in Q2 and Q3
- Optimized seven agency models by stress testing under various historical macroeconomic climates and incorporating survival and sensitivity analyses, enhancing forecast quality by 10% and providing clients with accurate models that mirrors current market performance
- Cleaned and transformed 50M+ loan data in SQL and prepared loan-level analysis through data visualization in Python and Excel VBA, aiding management's decision regarding model updates and annual release

CTBC BANK (USA) — Rowland Heights, CA
Mortgage Operations Intern (Mortgage Loan Analyst Intern) — June 2021 – September 2021

- Led a team of three interns through a lien release project to research and examine property reports and deed of trusts by structuring thousands of loan data, resulting in 1000+ reconveyances
- Established SOP for matching Loan Origination System data with servicer data through SAS and Excel, maintaining data integrity for further credit risk mitigation and increasing efficiency by 20%
- Researched and verified escrow history and insurance addenda to build a reconciliation model in Excel, facilitating general ledger account reconciliation on Operation's end and meeting month end reconciliation requirements

ACG FUNDING — Rowland Heights, CA
Mortgage Loan Origination Intern — June 2019 – September 2019

- Improved workflow for evaluating creditworthiness, analyzing loan-level data, and tracking progress by leveraging analytical tools such as Excel, Point, and mortgage calculator to accelerate prequalification process by 40% (less than three days)

DATA ANALYTICS PROJECTS & CHALLENGES

Amazon x UCLA Hackathon

- Developed and pitched a strategic approach to produce a list of product recommendations on various Amazon platforms

Time-Series Forecasting: Stock Prices Predictions Using ML Model | *Independent Research Supervised by Prof. Tomoyuki Ichiba*

- Constructed implied volatility and volatility skew in Black-Scholes model for S&P 500 options with Python
- Created Monte Carlo simulations and Long Short-Term Memory neural network to forecast S&P 500 Index closing price

Numerical Analysis Project: Discrete Least Squares Approximation in Stock Market

- Estimated closing averages in stock market on specific dates through implementing trigonometric discrete least squares approximation in Python, achieving an average of 2.5 percentage error of approximations

Regression Analysis on Real Estate Sales

- Utilized R to build a regression model for sales price estimation and explained 85% of the variability