

## SHIYU (CECILIA) HU

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### EDUCATION

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#### NEW YORK UNIVERSITY

New York, NY

#### The Courant Institute of Mathematical Sciences

**M.S. in Mathematics in Finance** GPA: 3.7/4 (expected Dec 2021)

- **Coursework:** stochastic calculus, binomial trees, Black-Scholes, PCA, SVD, Ito calculus, interest rate models, risk-neutral valuation, Monte Carlo simulation, OOP in Java

#### UNIVERSITY OF CALIFORNIA, SAN DIEGO

La Jolla, CA

**B.S. in Applied Mathematics and B.A. in Economics** GPA: 3.88/4 (Sep 2016 - Jun 2020)

- **Coursework:** numerical optimization, linear algebra application, statistics, linear least-square regression, probability, ODE, instrumental variables, financial derivatives
- **Award:** Magna Cum Laude (given to top 6% of students in the Department of Mathematics)

### EXPERIENCE

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#### AFLAC GLOBAL INVESTMENTS

New York, NY

**Rotational Intern in the U.S. Portfolio and Investment Risk Management** (Jun 2021 - Aug 2021)

- Designed a desktop tool with SQL that allows the investment professionals to analyze portfolio data of the U.S. Companies with user-friendly features
- Implemented a Settlement Risk Monitoring Model in Python which can calculate settlement value for different quantiles in both USD and JPY, break down settlement value in forward contracts and options under both stochastic scenarios and deterministic scenarios

#### CHINA MINSHENG BANK CORP., LTD.

Guangzhou, China

**Fixed Income Summer Intern** (Jul 2019 - Sep 2019)

- Employed R to calculate, summarize statistics of different bonds and plot the yield curve
- Created multiple reports associated with Asset-Backed Securities (ABS) and assisted other team members in evaluating default risks by conducting background checks

#### CITIC-PRUDENTIAL LIFE INSURANCE CO., LTD.

Guangzhou, China

**Summer Intern at the Sales Department** (Jul 2018 - Sep 2018)

- Extracted data from database to summarize monthly revenue and other values using Excel
- Analyzed the target audience of life insurance policies and predicted popularity of new policy

### PROJECTS

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#### NEW YORK UNIVERSITY

New York, NY

**Trading Energy Derivative Project (Instructor: Iliia Bouchouev)** (Jan 2021 - Mar 2021)

- Implemented a combined strategy of carry-momentum as well as crossover of moving averages of future contracts of WTI, RBOB and Heating Oil with Python and Excel
- Calculated profit and loss using 5-day rollout calendar before the expiration date, compared the equity line of each, and created an optimal portfolio with relatively high annualized return and Sharpe Ratio

#### NEW YORK UNIVERSITY

New York, NY

**Pricing Routine of a Hybrid Contract** (Nov 2020 - Dec 2020)

- Converted and simulated the price of a foreign European stock in US dollar, employed the Hull-White model, derived the LIBOR rate using the computed short rate and bond price
- Applied two-factor Monte Carlo Simulation to price the hybrid contract

### COMPUTATIONAL SKILLS/OTHER

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**Programming Languages and Other Software:** Java, Python, R, MATLAB, SQL, Advanced Excel

**Languages:** Cantonese (native), Mandarin (native), English (proficient)

**Interests:** photography, video editing, traveling, playing tennis