

# JU HYUNG KANG

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## EDUCATION

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- Expected 12/24 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute of Mathematical Sciences**  
**M.S. in Mathematics in Finance**
- **Expected coursework:** energy derivatives, algorithmic trading, data-driven modeling, machine learning, market microstructure, dynamic asset pricing, stochastic calculus
- 03/15 - 08/22 **SUNGKYUNKWAN UNIVERSITY** Seoul, South Korea  
**B.Econ. in Statistics and B.B.A. in Global Business Administration**
- **Coursework:** stochastic processes, Bayesian statistics, multivariate statistics, analysis
  - **Honors/Awards:** Sungkyun Talent Training Scholarship (merit-based; granted stipend and full tuition for all semesters), Magna Cum Laude (top 4% in graduating class)

## EXPERIENCE

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- 01/24 - Present **NYU COURANT** New York, NY  
**Graduate Teaching Assistant, Mathematics of Finance**
- Enhanced students' understanding of financial/mathematical concepts, including Black-Scholes model and stochastic calculus, mentoring them at 2 weekly recitation and office hours sessions
- 06/21 - 05/22 **DO LAB PTE. LTD.** Singapore, Singapore  
**Data Analyst (Python, Excel)**
- Managed global index data from 25+ sources for Child Online Safety Index project; tripled data processing efficiency by proactively switching data management from Excel to Python
  - Resolved referential interdependence issues among sources through correlation analysis on 850+ indicators in conjunction with qualitative analysis of data dictionaries
- 09/19 - 06/21 **AMINO** Seoul, South Korea  
**Software Developer (Python)**
- Executed comprehensive development and operation of dropshipping e-commerce website, strategically capturing bid-ask spreads to generate over \$28K in revenue during 6-month period
  - Engineered self-running 24/7 program that scraped and updated product data using bs4 and selenium libraries, processing 10K+ products hourly; decreased order cancellations by 90%+

## PROJECTS

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- 09/23 - 12/23 **NYU COURANT** New York, NY  
**Grid Trading Analysis (Python)**
- Developed object-oriented grid trading program, analyzing effects of parameters (e.g., lower/upper bounds, number of grids) via Monte Carlo simulations with Black-Scholes processes
  - Researched risk management strategies, including options portfolio integration, futures hedging, and grid weight adjustments; devised strategy that reduced 1% value at risk by 80%+
- 09/23 - 12/23 **Implied Volatility for Index Options Analysis (Python)**
- Conducted in-depth analysis of implied volatility for index options (SPX, NDX, RUT), using advanced visualization techniques, including 2-dimensional and 3-dimensional plots
  - Computed discrete points for implied densities via Breeden-Litzenberger formula, smoothed densities using kernel regression, and compared them with futures prices and historical densities
- 09/22 - 12/22 **BARUCH COLLEGE, CUNY** New York, NY  
**Computation of Prices and Greeks of Options (C++)**
- Created object-oriented C++ program using STL and Boost libraries to compute prices and Greeks of European and American perpetual options based on Black-Scholes formula

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python (pandas, numpy, selenium, bs4), C++ (STL, Boost), LaTeX, R, Excel

**Languages:** English (fluent), Korean (native)

**Certifications:** Akuna Capital Options 201 (Akuna Capital, 02/24), Akuna Capital Options 101 (Akuna Capital, 01/24), Probability Theory for Financial Applications (Baruch College, 03/23, Certification with Distinction)