# IVAN E. PEREZ

Website: https://ivaneperez.com ⋄ Github: https://github.com/IEPEREZ
3614 Irwin Avenue ⋄ Bronx, NY 10463
+1(347)445-8049 ⋄ perez.ivan.e@gmail.com

## EDUCATION

**Hunter College - CUNY**, New York, NY *May 2020*
M.A. in Statistics & Applied Mathematics (Conc. Math. Finance)

Awards: Joseph A. Gillette Memorial Prize
Relevant Coursework: Adv. Probability Theory I & II, Stochastic Methods of Finance, Mathematical Statistics, Stochastic Optimization by Computer Simulation, Numerical Methods, Microeconomic Theory.
Activities: Organic Chemistry I Adjunct Lecturer, Spring 2017-Spring 2020

**Boston University**, Boston, MA *May 2014*
B.A. in Chemistry (with ACS Certification)

Awards: UROP Student Research Award, UROP Faculty Matching Grant.
Relevant Coursework: Adv. Coordination Chemistry I, Physical Chemistry I & II, Calculus I-III
Activities: Calculus I & II Course Grader, Fall 2011-Spring 2014

## WORK EXPERIENCE

**Permanent Mission from Dominican Republic to the U.N.** New York, NY
*Adviser - Second Committee* *March 2019 - September 2019*

- Analyzed statistical data produced by subsidiary organs (e.g. UNSD) for a team of five delegates.
- Curated information from Second Committee meetings for interpretation by delegates, and ambassadors.

## PROJECTS

**Detection Schemes Applied to Market Microstructure** Independent Research
*Proposal Full-text Link* *January 2021 - Present*

- Using CUSUM detection algorithms to explore market microstructure idiosyncracies across asset pairs.
- Developing detection schemes on changes to the limit order book to identify the arrival of a private signal.
- Developing linear models to infer market impact during price changes caused by private signals.

**Cryptocurrency Order Book Analysis Tool - crobat** Current Project
*Project Page (Github)* *May 2020 - Present*

- Solely developed a Python API to record changes in the Coinbase limit order book(LOB) in real time.
- Infers types of changes, price, size, and position, for facile application of market microstructure models.
- Implement Git/Github and LaTeX to maintain, document, and communicate new features and bug fixes.

**A Study of CUSUM Statistics on Bitcoin Transactions** Thesis Project
*Full-Text Link - Beamer Presentation* *July 2019 - May 2020*

- Developed a CUSUM detection scheme on compound Poisson processes to detect volatile trading periods.
- Applied GLMs and significance testing to detect periods associated with increased price action.
- Developed tools using Python and Pandas to collect and analyze arriving market orders in real time.

## TECHNICAL STRENGTHS

| | |
|---|---|
| **Computer Languages** | Visual Basic, Python, R, Mathematica |
| **Analytical tools** | Bloomberg Terminal, Microsoft Office Excel |
| **Databases & Tools** | Pandas, NumPy, MySQL, SQLite |
| **Certifications** | Passed CFA L1 |