# Joe Hollander

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*Passionate and motivated high school student with a strong interest in finance, mathematics, and their intersection.*

## EDUCATION

**South Burlington High School** — **South Burlington, VT**
*High Honors (Current GPA: 3.9/4.0), PSAT (1520/1520)* — *August 2022–Present*

Relevant Coursework: AP Calculus BC (Exam Score: 5/5)

**University of Vermont** — **Burlington, VT**
*GPA: 4.0/4.0* — *July 2024*

Relevant Coursework: Calculus 3

## PROJECTS

### KAGGLE
- Cleaned and prepared data using mutliple data cleaning techniques, such as imputation, PCA, statistic replacment, normalization, and normal distribution transformation
- Used different machine learning models, such as Random Forest models, Clustering models, and Ensemble models, in multiple competitions
- Visualized data with matplotlib and seaborn to highlight trends and patterns

### PRICING OPTIONS
- Used the Cox-Ross-Rubenstein Binomial Tree model and the Leisen-Reimer Binomial Tree model to price American and European style options
- Used the Black-Scholes model to price European style options, display changes based on underlying price, and graph simple option strategies

### CRYPTOCURRENCY DATA COLLECTION
- Used websocket rest APIs to gather orderbook, volume, and orderflow data from the Kraken exchange
- Created asynchronous script to display orderbook data in real time and other statistics
- Implemented Python scripts to optimize data storage using Parquet and Git

### AUTOMATED SCORE SHEET GENERATOR
- Created an automated script that generated score sheets for soccer games, improving efficiency and accuracy
- Used Selenium and BeautifulSoup to scrape data from the website
- Used Pandas to clean and organize data, and then used PDFkit to generate printable pdf files

## SKILLS
- Python 3 (NumPy, Pandas, Matplotlib, Scikit-Learn)
- Git
- Docker