

Youssef Victor

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EDUCATION

UNIVERSITY OF PENNSYLVANIA QUANTITATIVE ANALYST | PATTERN RESEARCH

MSE IN DATA SCIENCE

MAGNA CUM LAUDE

December 2019 | Philadelphia, PA

GPA: 3.7

UNIVERSITY OF PENNSYLVANIA

BSE IN DIGITAL MEDIA DESIGN
(COMPUTER SCIENCE)

MAGNA CUM LAUDE

Dean's List

May 2019 | Philadelphia, PA

LINKS

Github:// @YoussefV

LinkedIn:// Youssef Victor

Algorithmic Trading Blog://
youssefvictor.com/quant

COURSEWORK

Statistical Data Analysis and Inference

Mathematics of Statistics

Probability Theory

Regression for Social & Behavioral Data

Principles of Deep Learning

Artificial Intelligence

Big Data Analytics

Internet and Distributed Web Systems

Statistical Data Mining

GPU Programming

Theory of Algorithms

Functional Programming

SKILLS

PROGRAMMING

Over 10,000 lines:

Python • C/C++

Over 5,000 lines:

R • C# • Swift • Java

Over 2,500 lines:

OCaml • SQL

Other:

Bash • Javascript • HTML • CSS

FRAMEWORKS

PyTorch • Tensorflow • Pandas •

MongoDB • Apache Spark • Neo4J

EXPERIENCE

UNIVERSITY OF PENNSYLVANIA QUANTITATIVE ANALYST | PATTERN RESEARCH

January 2020 - Present | New York, NY

Pattern Research is a quantitative asset management firm specializing in trading cryptocurrencies among various asset classes and across a wide range of exchanges. My roles include assisting in optimizing trading infrastructure, data scraping and processing, and researching potential market inefficiencies.

PYTHON DEVELOPER INTERN | AKUNA CAPITAL

June 2019 - August 2019 | Chicago, IL

Built compliance surveillance software to assist in the monitoring of incoming trades. Responsibilities included PostgreSQL database subscribing and retrieval and trade aggregation of securities in terms of delta equivalents for various exchange regulation limits.

SOFTWARE ENGINEERING INTERN | BLUEFIN TRADING

June 2018 - August 2018 | New York, NY

Interned at Bluefin Trading during the Summer of 2018. Was responsible for the augmentation of multiple internal tools that would analyze profit and loss for trades conducted, and for trade metadata aggregation, analyzing, and SQL database storage.

PUBLICATIONS

RECREATING PRE-COLUMBIAN LIFE IN THE BAURES REGION OF THE BOLIVIAN AMAZON | SVR 2018

November 2018 | Foz Do Iguaça, Brazil

Co-authored paper with Professor Norman Badler on the Baures region of Bolivia in which my team and I were tasked to recreate the native habitat there using topographical data. The work was presented in Virtual Reality using mo-cap data and procedurally generated assets. The paper has been published at SVR 2018.

PERSONAL PROJECTS

ODYSSEUS July 2019-December 2019

Developed an automated modular backtesting platform from scratch to handle minute-by-minute cryptocurrency data and quantitatively analyze returns for a given strategy. These strategies include MA-Crossover, Mean Reversion based techniques, and custom models which have an alpha of $\approx 758\%$ with a Sharpe ratio of ≈ 2.64 . For source code and more see: youssefvictor.com/quant

GOOGLELITE - MINIATURE SEARCH ENGINE December 2019

Worked collaboratively with colleagues to develop a search engine that indexed over 1 million web pages using a distributed web crawler, ranked them using Hadoop MapReduce, and retrieves results using a partitioned SQL database back-end.

NOISE-FREE BRIGHTENING AI January 2019

Developed an AI trained using a convolutional neural network to brighten iOS images with minimal noise using personal custom dataset of over 2500 images. (based on research paper from IEEE Conference on Computer Vision and Pattern Recognition, 2018.)

POLLUX RENDERER December 2017

Developed one of the world's first Physically Based Path Tracers on an iPhone using Apple's Metal framework. Pollux runs on iOS and macOS and uses GPU acceleration to deliver incredibly fast on-device rendering. Code Available on Github.