

Youssef Victor

vicy@seas.upenn.edu | (484) 620-2544
www.youssefvictor.com

EDUCATION

UNIVERSITY OF PENNSYLVANIA

MSE IN DATA SCIENCE

December 2019 | Philadelphia, PA

GPA: 3.78

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

Big Data Analytics

Statistical Data Mining

Artificial Intelligence

Machine Learning

GPU Programming

Theory of Algorithms

Functional Programming

Micro and Macroeconomics

SKILLS

PROGRAMMING

Over 10,000 lines:

Python • C/C++

Over 5,000 lines:

R • C# • Swift • Java

Over 2,500 lines:

OCaml

Other:

Bash • Javascript • SQL • HTML • CSS

FRAMEWORKS

Tensorflow • Pandas • Apache Spark •

SQLite • PostgreSQL • MySQL •

MapReduce

EXPERIENCE

PYTHON DEVELOPER INTERN | AKUNA CAPITAL

June 2019 - August 2019 | Chicago, IL

Interning at Akuna Capital over the summer. Building compliance surveillance software to assist in the monitoring of incoming trades. Responsibilities include 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.

HEAD TEACHING ASSISTANT | GPU PROGRAMMING

August 2018 - Present | Philadelphia, PA

GPU Programming (CIS 565) covers an introduction to parallel programming techniques with a focus on graphics. Over the course of the semester, students learn many GPU frameworks that culminate in a final project of their choosing. Projects range in fields from path tracing to machine learning.

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-Present

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 out-of-sample alpha of $\approx 758\%$ with a Sharpe ratio of ≈ 2.64 .

For source code and more see my blog at: youssefvictor.com/quant

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. (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.

CUDA PHYSICALLY BASED PATH TRACER September 2017

Real-time GPU-accelerated path tracer built using CUDA that uses the Monte Carlo method, Multiple Importance Sampling with Russian Roulette Ray Termination, and direct and bidirectional scattering distribution function based light sampling.