ANDREA VENUTA

Software Engineer, Quantitative Analyst

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Summary

I've been writing code since I was 13, and professionally for the past decade. My specialty is writing *fast* and *clean* code, and my favorite language is **Rust**.

I'm currently employed as a *Senior Software Engineer* at *Phylum.io*. We develop a platform to ingest large amounts of software data, then analyze and develop heuristics to assess *software supply chain risk*.

I deem shipping half-baked code just as bad as seeking perfection and never shipping. I want to deliver software in a timely manner and I want for it to also be of excellent quality. I like **CI/CD**.

I want to build software that makes a net positive difference in the world. I want my efforts to be meaningful and make people's lives easier and happier, and won't accept jobs which are exploitative of others or unethical in nature.

Employment History

Adjunct Professor, Financial Mathematics

Università degli Studi di Firenze   *Academic year 2020/2021*
Dipartimento di Scienze per l'Economia e l'Impresa

Senior Software Engineer

Phylum.io   *07/2020 - present day*
- Development of features and heuristics in the core platform. Technologies: Rust, Python, Hadoop, HBase, Kafka, Spark, Docker, Kubernetes

Quant Portfolio Manager

Azimut Capital Management sgr   *10/2017 - 07/2020*
- Developed a portfolio and order management system with algorithmic trading strategies pipeline. Written in Rust as a multithreaded application, sourcing pricing data from IQFeed and the Bloomberg API, optimized for rapid execution of time-sensitive equity strategies.
- Developed a proprietary backtesting platform as a C++ CPython extension, supporting Jupyter widgets via Vue.js/Web Components and the Pandas/NumPy/SciPy stack.
- Developed a financial performance reporting system, as microservices orchestrated via Docker Compose. Stack: Java EE business logic and data pipeline, PostgreSQL database, Node.js report generation, Vue.js frontend.

Senior Frontend Software Engineer

Self employed   *08/2012 - 02/2018*

Fullstack Web Developer

GWC World   *08/2011 - 06/2013*

Fullstack web developer

Standouter.com   *08/2011 - 08/2012*

Skills

Software Engineering

Rust · C++11 · Python · Javascript · Concurrent and parallel programming · Functional programming · Profiling and optimization · Distributed systems

Quant Finance & Data Science

Pandas · NumPy · Jupyter Notebooks · SQL · Hadoop · HBase · Spark · Kafka · Algorithmic trading · Econometrics · Equities · Futures · Derivatives

Frontend

Javascript/ES6 · Interactive data visualization · WebGL · Canvas2D · Vue.js · Svelte.js

Backend & DevOps

RESTful API · Docker · Docker Compose · Kubernetes · Node.js · Java EE

Education

MSc Finance & Risk Management   110L/110
Università degli Studi di Firenze   *2018*

Thesis: *"Deep Learning models for High-Frequency Cryptocurrency Forecasting"*. I applied a *long short-term memory* based recurrent deep neural network to intraday pricing data for a number of cryptocurrencies listed on the GDAX exchange. Findings showed that a simple model on 5-minute data is unable to forecast returns, but may forecast realized volatility (squared returns) with significant precision.

BSc Computer Science   103/110
Università degli Studi di Firenze   *2015*

Thesis: *"Procedural Content Generation and Real-time Rendering"*. I researched and designed a mathematical formalism by merging parametric open L-systems and shape grammars to define urban architectural elements and procedurally generate 3D models of cities. The models were textured with signal function-based, anti-aliased procedural textures and rendered in the context of a deferred, multi-pass shading renderer.

Diploma di Perito Informatico   100/100
I.T.I.S. "T. Buzzi"   *2008*