

ANDREA COGNOLATO

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WORK EXPERIENCE

Software Engineer, Optiver

November 2022 - Now

- Worked on **historical and live data pipelines for automated volatility trading strategies**. The work required owning the desk's full tech stack: from scaling the data and compute infrastructure, to **developing custom profiling tooling**, and implementing novel trading signals.
- Worked on rebuilding the market risk monitoring system, providing tens of millions instrument-level and aggregated simulations to risk managers in seconds. This involved breaking up a monolith into **distributed C++ services**, optimizing the internal message bus for high throughput, and developing native, low-overhead, Python APIs for data access.

Software Engineer Intern, Optiver

July 2021 - August 2021

- Optimized, tested, and deployed a data processing job for the compliance tech team, reducing its runtime by 8x. To achieve this I **profiled and optimized C++**, then created **Python bindings**.

Software Engineer (part-time), Ufficio.ch

March 2020 - June 2022

- Developed the frontend and backend for an eCommerce platform using **Haskell** and **PureScript**.

Machine Learning Research Intern, Politecnico di Torino

October 2019 - March 2020

- Worked under prof. Elena Baralis on the eXplainable AI (XAI) frameworks LACE and X-PLAIN. This work was published at SIGMOD20. Optimized Python code decreasing runtime its by over 50%.

EDUCATION

Master of Data Science and Engineering, Politecnico di Torino

Sept. 2020 - July 2022

Graduated with 110/110 cum laude.

Erasmus Exchange Program, Aalto University, Finland

Sept. 2021 - June 2022

My Master's thesis work was extended and **published at PMLR23** as:

[“Nonparametric modeling of the composite effect of multiple nutrients on blood glucose dynamics”](#)

Bachelor of Computer Engineering, Politecnico di Torino, Italy

Sept. 2017 - July 2020

Graduated with 110/110 (Top 1% in my class), supported by a full scholarship.

OTHER EXPERIENCES

Blogging

(more at mrandri19.github.io/blog)

Wrote several posts for my blog which reached the front page of Hacker News and Reddit's /r/programming. Several articles were read by more that 10,000 people and keep generating traffic years later.

Ma chi voto? (Who to vote for?)

Built, for the 2022 Italian general election, a voting compass website that allows users to see how their views align with those of the parties running for election.

Using GCP, it handled **half a million unique users over ten days** and a peak of over 200 requests/s.

Citadel Summer Invitational Datathon

July 2020

Our team performed data analysis and quantified the effect of 2012 Olympics on London's housing market using a causal inference method called Synthetic Control.

Open Source

(more at github.com/mrandri19)

Open source contributor since 2015 on projects such as Druid UI, Surrogates.jl, and MindsDB Lightwood.