

**ANDREA VENUTA**

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PRINCIPAL SOFTWARE ENGINEER, QUANTITATIVE ANALYST

## Summary

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I'm a generalist software engineer, and I have been building software since my teenage years. I adapt quickly to unfamiliar technologies and novel concepts, and thrive in greenfield and research-driven environments.

I have extensive experience with Rust, which has served as the foundation for diverse projects, including data pipelines, static code analyzers, quantitative trading systems, fullstack web applications, rendering engines and developer tools.

I actively develop and maintain open source projects focused on game reverse engineering and graphics programming.

## Professional Experience

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2025/01 - present **Principal Software Engineer**, Veracode

- Contributed to integrating the Phylum platform into Veracode and enhancing analytics capabilities.

2020/07 - 2024/12 **Principal Software Engineer**, Phylum.io

- Worked across teams to shape the architecture of the platform, from the company's earliest stages through its acquisition by Veracode.
- Architected the heuristics data pipeline, implementing the research team's insights at scale on tens of millions of packages collected across open source ecosystems. [Rust](#) · [Scala](#) · [Spark](#) · [AWS](#)
- Created [vuln-reach](#), an open source library for determining reachability of vulnerable library code in the dependency tree from the user's codebase. [Rust](#) · [tree-sitter](#)
- Built [issues-rules-engine](#): a distributed system exposing a [Python](#) DSL to define rules to tag packages' metadata for evidence of threat at scale. Improved ergonomics for the research team and reduced computation times by 95%-99%. [Rust](#) · [PyO3](#) · [ZeroMQ](#) · [Docker](#) · [Python](#)
- Developed [CLI](#) extensions: expose the internal CLI functionality to TypeScript, allowing customers to write their own logic for submitting requests to the Phylum API. Wrappers around package managers' CLIs were the motivating use case. [Rust](#) · [Deno](#) · [TypeScript](#)

2020/09 - 2024/09 **Adjunct Professor, Financial Mathematics**, Università degli Studi di Firenze DISEI

- Taught 6CFU undergraduate course in English to Italian and foreign students on mathematical methods for interest, amortization, and debt securities valuation.

2017/10 - 2020/06 **Quant Portfolio Manager**, Azimut Capital Management sgr

- Managed quantitative equity strategies overseeing \$200MM+ AUM.
- Designed a high-performance portfolio management system and algorithmic trading pipeline for strategy execution. [Rust](#) · [IQFeed](#) · [Bloomberg API](#)
- Developed a backtesting platform to deal with path dependencies and hidden costs, improving model reliability and evaluation speed. [C++](#) · [CPython](#) · [Pandas](#) · [Numpy](#) · [Vue.js](#) · [WebComponents](#) · [Jupyter](#)
- Developed a microservices-based financial performance reporting system. [Java](#) · [PostgreSQL](#) · [Node.js](#) · [Vue.js](#) · [Docker Compose](#)

2013/06 - 2018/03 **Senior Frontend Software Engineer**, Interfase s.r.l.

- Built web-centric interactive data visualizations, GUI applications and reports. [JavaScript](#) · [Canvas2D](#) · [WebGL](#) · [VR](#) · [Unity](#) · [GIS](#)

2011/09 - 2014/08 **Fullstack Web Developer**, GWC World

## Education

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2018 **MSc Finance & Risk Management**, Università degli Studi di Firenze

- 110L/110. Thesis: [“Deep Learning models for High-Frequency Cryptocurrency Forecasting”](#).

2015 **BSc Computer Science**, Università degli Studi di Firenze

- 103/110. Thesis: [“Procedural Content Generation and Real-time Rendering”](#).

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

- 100/100

## Open Source

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### [hudhook](#)

- A Rust graphics rendering hook library for building overlay UIs. It supports DirectX 9/11/12 and OpenGL. It injects a dear imgui renderer into the presentation step, and hooks window procedures to process user input.  
[Rust](#) · [dear imgui](#) · [GPU Rendering](#) · [Reverse Engineering](#) · [Windows API](#)

### [darksoulsiii-practice-tool](#) · [eldenring-practice-tool](#) · [sekiro-practice-tool](#)

- These mods are ubiquitously used in the speedrunning community. They offer tools for improving QoL during repetitive practice tasks and aid in glitch hunting and routing.  
[Rust](#) · [dear imgui](#) · [UX design](#) · [Reverse Engineering](#)

### [amardiscord](#)

- A web-based interface for reading Discord server chat archives, mimicking Discord's user interface. Uses a read-only embedded SQLite database and supports full-text search.  
[Rust](#) · [SQLite](#) · [Axum](#) · [Askama](#) · [HTMX](#)