

Joel Horowitz

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PROFILE

Senior quant engineer and full-stack builder with 20+ years across hedge funds, prime brokerage, and investment banking. Currently at Freestone Grove (L/S equity), building agent-friendly platforms for data scientists

EXPERIENCE

Quant Developer — Data Science Tech Lead Jul 2024 – Present

Freestone Grove · New York, NY · Long/Short Equity Fundamental Hedge Fund

- Maintained the metrics server, feeding the central risk platform of the firm.
- Architected a validation platform adopted across multiple teams: rule-based logic, automated alerts. Self-documenting pipeline generating company wide operations dashboard
- Harmonized fragmented ML KPI estimates pipelines written by data scientists into a unified framework, with Pydantic-enforced schemas, AI-friendly config constructs, hallucination-resistant by design.
- Built an AI-accessible execution sandbox: AI agents write and validate code in isolation before promotion to production, posting results to PR.
- Designed an AI-assisted debugger/research tool (i.e. stack/locals/source code aware AI)

Stack: Python · Pydantic · FastAPI · Streamlit · SQLAlchemy · Snowflake · AI APIs

Independent Project: Storymaker · Apr 2026

- Conceived a complete agentic AI product — illustrated book creation, promotional page, and print-ready PDF export. Already producing books at near-print quality.
- AI-native development: coordinating multiple AI APIs in a structured pipeline, from idea to finished artifact.

Stack: Python · AI APIs · Prompt engineering · PDF pipeline

Quant Developer — Core Prime Brokerage Jun 2023 – Jul 2024

Hidden Road Partners · New York, NY

- Designed and maintained billing infrastructure serving ~80% of firm revenue, with full regression testing suite, modular design allowing arbitrary types of fees.
- Built quant portal used by engineers across the firm.

Stack: Python · FastAPI · Streamlit · SQLAlchemy · AWS S3 · Snowflake · Airflow · Retool · Datadog

Vice President — Prime Risk Strategist Nov 2021 – Jun 2023

Goldman Sachs & Co · New York, NY

- Led infrastructure team delivering real-time intraday platform and dev tools to risk strategists and managers.
- Oversaw overhaul of stress/margin calculation and attribution engine.
- Designed a stress explanation framework enabling drill-down of complex margin calculations for non-quant stakeholders.

Stack: MongoDB · AWS S3 · SQL · Distributed compute · SecDB

Quantitative Researcher — Discretionary Strategies Nov 2019 – Nov 2021

Squarepoint Capital · New York, NY

- Lead technology architect for the discretionary business (15+ PMs).
- Built full-stack risk calculation, visualization, and quoting platform from scratch.
- Created a Python framework enabling PMs and QRs to build interactive web analysis tools using only Python — tool design for non-engineers.
- Designed a DSL to represent risk limits, with tracking and alerting.

Stack: Python · Flask · VueJS · MongoDB · PyXLL

Volatility Strategist — Quantitative Strategies Mar 2014 – Nov 2019

BlueMountain Capital · London & New York

- Priced light exotics; harmonized risk measures across Equity, FX, and Credit.
- Built PM tools: Excel add-ins, backtesting frameworks, visualization tools, auto delta-hedger.
- Designed framework embedding C#-based analytics into web applications.

Stack: C# · Python · VBA · REST APIs · VueJS · SQL · MongoDB

Freelance Quant Consultant May 2012 – Dec 2013

Quantelligence LTD · London, UK

Executive Director — Derivatives Strategist Apr 2005 – Apr 2012

Goldman Sachs International · London, UK

- Quantitative analytics for the Counterparty Risk Committee and Global Liquidity Products desk.
- Structured CVA and financing-related derivative trades with corporates and sovereigns.
- Designed a payoff description language for complex exotic structures (CPPIs) — early DSL experience.

Stack: SecDB · SQL · VBA · Excel add-ins

Exotic Equity Derivatives Trader Feb 2003 – Mar 2005

Fortis Bank (now BNP Paribas Fortis) · Brussels, Belgium

- Hedged exotic book on major European indices; structured tax arbitrage trades based on stock vs options asymmetry.

Senior Associate Consultant Apr 2001 – Jan 2003

Bain & Company · Brussels, Belgium

EDUCATION

PhD in Mathematics · Differential Geometry · Université Libre de Bruxelles

MSc in Mathematics · Université Libre de Bruxelles

Fleurice Mercier Award '92–'94 · Georges Sterpenich Award '94–'95 · Int'l Maths Olympiads & Physics Olympiads— Belgian team, Moscow & Helsinki 1992

ADDITIONAL

Languages: French (native) · English (fluent) · Dutch / Italian (conversational) · Musician: professional piano bar & private events · Belgian citizen, US Permanent Resident