**Paul Constantino**

**Summary**

Senior Fintech SME and seasoned capital markets professional and subject matter expert, I bring 15+ years of deep experience across quantitative trading, risk, and regulatory compliance with Tier I global financial institutions. My work spans proprietary trading, buy-side and sell-side engagements, with core expertise in Python-driven quantitative modeling, trade surveillance, and financial risk solutions.

I have designed and implemented algorithmic trading models, regulatory risk frameworks, and surveillance systems for institutions including Northern Trust, Wells Fargo, MUFG, Mizuho, Nuveen, and Charles Schwab, focusing on modernizing trading infrastructure, improving risk controls, and aligning quant models with SEC, FINRA, CFTC, and global regulatory frameworks.

**Key expertise includes:**

* Python for quantitative analytics, risk modeling, trade surveillance, data automation, and regulatory reporting
* Equities, fixed income, FX, derivatives, and multi-asset trading platforms
* Algorithmic and systematic trading model design with emphasis on performance, control, and regulatory clarity
* Regulatory compliance: SEC 15c3-5, Reg NMS, Reg SCI, Reg ATS, CAT, EMIR, and CFTC 43/45
* Risk management frameworks: VaR, CVA, stress testing, scenario analysis, model governance
* Surveillance, AML, and market abuse detection systems

I am passionate about delivering Python-powered solutions that optimize trading performance, enhance financial risk oversight, and ensure regulatory alignment—bridging the gap between trading desks, technology, and compliance to drive safer, more efficient markets.

**Core Competencies**

* Trading Risk & Surveillance Platforms • Regulatory Reporting (CFTC, SEC, EMIR)
* Business Analysis & Requirements Gathering • Front Office & Electronic Trading Workflows, Processes and Data Structures
* Trade Surveillance Logic & Pattern Detection • Risk Architecture (VaR, CVA, Stress Testing)
* Python (data analytics, automation, model prototyping, large-scale data handling, surveillance logic, and API integration), VB, VBA, Java, JSON, SQL, Oracle
* Agile Project Leadership • Cloud Architecture • OMS/EMS Integration

**Professional Experience**

**CTT Advisors** – Dec 2013 to Present  
Tech Lead / Quant SME  
Founded CTT to focus on quant trading and consulting:

**Tech Lead / Quant Trader – Jul 2020 – Present**  
Quantitative Trader in the secondary markets deploying automated, electronic trading models and executing multiple strategies (ETF create/redeem, ETF arbitrage, long/short, flow, market making, delta neutral, limited hedge, and relative value) in cash, futures, and options in equities, fixed income, commodities, FX, and crypto markets.

* Developed and enhanced Python-based trading and analytics libraries to backtest and optimize models.
* Built Python scripts to integrate multiple market data feeds (Bloomberg, Interactive Brokers, Market Axess) for real-time decision support and execution.

**Tech Lead – Transformation Program, Northern Trust – Sep 2024 to Feb 2025**  
Led a transformation team on the analysis and assessment of NT global FX operations and technology to identify inherent risk in operations, processes, and data structures providing a detailed assessment and roadmap for modernization and future state delivery.

* Used Python for process data mapping, workflow simulation, and validation of large operational datasets.

**Python Tech Lead / Senior Consultant – Wells Fargo – Dec 2022 – Nov 2024**  
Contracted as SME in electronic trading and developed a Python-driven trade surveillance solution (with SQL backend) that monitors orders, RFQs, quotes and ESPs (electronic streaming quotes) from the front office for various metrics (front running, spoofing, layering, best ex, etc.).

* Engineered scalable Python pipelines analyzing millions of transactions per day.
* Built pattern-detection modules in Python leveraging Pandas, NumPy, and regex for surveillance logic.
* Delivered real-time reporting dashboards integrating Python outputs with SQL queries.
* Additionally worked on FX Auto conversion in the payments space.

**Senior SME / Python Risk Consultant – PWC – May 2022 – Dec 2022**  
Contracted as subject matter expert in cleared swaps providing analysis of readiness for rules changes to CFTC regulations 43/45 at a Swaps Execution Facility (SEF) and Swaps Dealer (SD).

* Provided detailed analysis of swaps products executed on and off-facility, recommending process and data model improvements.
* Designed compliance monitoring dashboards, integrating Python scripts for automated validation of CFTC reporting data.
* Mapped CTFC 43/45 rule changes into new data models, highlighting gaps and remediation paths.

**Tech Lead / Business Analyst – Charles Schwab & Co. – Jun 2021 – Apr 2022**

Led programs in Trading and Risk for the Charles Schwab & Co. and TD Ameritrade merger.

* Contributed Python utilities for risk model integration testing during platform migration.

**Python Tech Lead – Independent Price Verification (IPV), Wells Fargo – Jun 2019 – Jun 2020**  
Led the design and development of an independent price verification platform deploying virtual technologies and automated processes providing independent pricing for all traded securities.

* Designed pricing models embedded with Python scripts for mark-to-model and vendor price comparisons.
* Connected Python models to scalable in-memory databases and SQL backends.
* Extensively used Python for troubleshooting, testing, and mapping data transformations.
* Led through Jira/Agile while working hands-on with VBA, SQL, and Python automation scripts.

**Electronic Credit Trader / Python Quant Lead – Prelude Opportunity Fund, LP – Jun 2017 to Jun 2019**  
Managed an ETF arbitrage trading strategy in IG corporate bonds executing via a fully automated model.

* Original model built in Excel/VBA, later ported to Python for enhanced flexibility and real-time order management.
* Python implementation introduced object-oriented design (risk, flow, exposure, hedging, spreads, liquidity modules).
* Developed automated Python testing suite for strategy validation and performance monitoring.

**Tech Lead – Cloud Migration Program, Mitsubishi Financial Group – Mar 2016 to Jun 2017**  
Led the technical migration of three large businesses in private equity/hedge funds to a private Cloud.

* Used Python scripts for ETL automation, VM/DB validation, and reporting of migration testing.

**Tech Lead / Senior Business Analyst – Mizuho Prime Brokerage – Jan 2010 to Dec 2014**  
Led design, development and implementation of enterprise HFT platform.

* Worked with large trading data sets, performing Python-based risk and collateral modeling during prototyping.

**Team Lead / Python Quant Trader – Jan 2013 to Mar 2016**  
Designed and launched an automated electronic trading model in US credit space.

* Enhanced model efficiency through Python modules for execution logic and market data ingestion.

**Tech Lead – CVA Program, Wells Fargo – Oct 2013 to May 2014**  
Led development of new CVA platform to address MRAs from FRB.

* Designed data management tools in Python for scenario testing and VaR/CVA simulations.

**Python Quant Trader – 2014 to 2016 (Eagle Seven, ITG Connect)**  
Designed and developed credit trading models for ETF arbitrage.

* Transitioned to Python-based automation for execution, analytics, and performance optimization.

**Tech Lead – Real Time Risk Platform (Global Banks) – 2013 to 2020**  
Led the development of a real-time risk solution deployed at global banks.

* Designed Monte Carlo VaR simulation using in-memory DBs and Python-based model design.
* Used Python for model orchestration and integration with McObject database and Kove memory management.

**Certifications**

* **Cornell University – Python for Data Science Certification – Oct 2022**
* FINRA Series 24, 7, 65, 3

**Proficiencies, Technologies, Applications, Systems, Platforms**

* **Programming:** Python (Pandas, NumPy, SciPy, scikit-learn, PyTorch basics, API integration, data automation, trade surveillance logic), VB, VBA, Java, JSON, SQL, T-SQL, Oracle
* Tools: Jira, Confluence, SharePoint, O365, MSFT Office, Visio
* Platforms: AWS, Cloud Architecture, VM, Citrix
* Trading Systems: Bloomberg, Calypso, Murex, Summit, Sophis, OpenLink, Fidessa, Front Arena, Apex, Ullink, Geneva, CRD
* Markets/Products: Equities, FX, Fixed Income, Derivatives, Options, Swaps, Commodities, Structured Products
* Risk/Regulatory: Dodd Frank, Basel, VaR, CVA, ES, FRTB, Monte Carlo

**Education**

* **University of Notre Dame Mendoza Graduate School of Business – MBA**
* **Duke University – AB Political Science**
* Duke Football Captain