

MADHAV MANOHAR SURESH

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Summary

Software engineer with 6 years across data-intensive platforms for commodities and energy trading. Currently build market-risk (VaR) and risk-reporting systems for a commodities trading firm; previously delivered energy-market data capture, curation and analytics for a power trading desk. Strong in Python, AWS, PostgreSQL and ETL, with full-stack delivery (modern JavaScript) and a focus on production reliability — root-causing and fixing live pipeline issues end-to-end.

Work Experience

Application Developer at Hartree Partners (Jul 2025 – Present)

Risk & Pricing team — work across the firm's commodities Market-Risk (VaR) and risk-reporting platform, partnering with traders, risk and support across oil, gas, power and physical commodities.

Built and maintain Position Service ETL components (Python/Airflow) consolidating EOD/intraday feeds from 8+ ETRMs into a unified position store that feeds all downstream reporting.

Contributed to the migration to a new historical-simulation VaR engine and the risk controls layered on top (configurable configs, official/preliminary runs, risk overrides) producing VaR for the daily risk reports.

Help own production reliability of the morning risk-related jobs — root-causing and fixing pipeline failures end-to-end, backed by diagnostic tooling and day-over-day reconciliation that gates the risk report.

Contributed to an interactive position viewer where traders build and save their own views and aggregations across any dimension (commodity, market area, counterparty, book) at daily or monthly granularity, with Intraday / COB / historical modes.

Contributed to the risk-operations console — view and email risk reports to traders, re-run VaR intraday, apply pricing / Risk P&L overrides, edit risk-engine/report mappings.

Report pages load from tables pre-built on VaR completion, replacing slow on-demand API aggregation.

Technologies: Python, Pandas, Apache Airflow, Ray, AWS (Athena, S3, EKS), Kubernetes, PostgreSQL, Svelte

Software Developer at Centrica Plc (Oct 2023 – Jun 2025)

Front Office Development team supporting the power trading desk — built data-capture, standardisation and monitoring tooling for European energy markets.

Built Python services to capture European energy market transparency data — REMIT urgent market messages, transmission/grid capacity and outage data — from multiple providers and venues (e.g. EEX, EDF), using a decoupled producer–curator design.

Developed a data-curation platform that standardised these heterogeneous vendor feeds into a single canonical view, giving the power desk one consistent source of fundamentals to trade on.

Built compliance alerting for algo trading — tracked daily published order-message volumes against venue messaging limits and alerted the desk as thresholds were approached, so they could act before a breach.

Migrated ~10 TB of time-series market data from PostgreSQL to ClickHouse with automated reconciliation, materially improving query performance and storage compression for downstream analytics.

Implemented data-staleness and quality monitoring — scheduled jobs that reconcile against source, detect gaps/stale feeds, and alert the desk so data issues surface early.

Built a Conda environment setup tool standardising Python environments across desks.

Technologies: Python, PostgreSQL, ClickHouse, AWS (ECS, AppSync, Lambda, EC2, CloudWatch, EventBridge, SQS, SNS, S3), Kafka

Systems Engineer at Tata Consultancy Services Ltd (Jan 2019 – Jan 2022)

Project: Micro Widget

Worked on development of a micro frontend platform for the firm's digital offering.

Built a CLI tool for bundling widgets into a micro frontend-compatible format.

Developed a client bus to enable seamless widget interoperability.

Implemented a mechanism for persisting and saving widget state.

Implemented web optimization techniques, contributing to a 12-15% improvement in website load times.

Technologies: HTML5, JS, web components, Typescript, Node, React, JSS, Webpack 5, Federated Module system, Jest

Programmer Trainee at InApp Information Technologies (Jul 2018 – Dec 2018)

Developed a full-stack Python-based knowledge graph application for internal users.

Conducted performance analysis and implemented fixes and enhancements to improve application performance.

Technologies: Django, Python, SQLite, JavaScript, HTML5, Java, JSP

Education

Master's Degree in Computing and Information Communication Technology

University of East London (Jan 2022 – May 2023)

Bachelor's Degree in Electronics and Communication

University of Kerala (Aug 2014 – Jul 2018)