

OMJI SHUKLA

Bengaluru Karnataka

+91 8178858705 | omshukla245@gmail.com | [Web Portfolio](#) | [GitHub](#) | [LinkedIn](#)

Education

UPES Dehradun | August 2022 - May 2024

Master of Computer Applications [AI & ML]

Kanpur University | August 2018 - June 2021

Bachelor of Science

Skills

- **Languages & Backend:** TypeScript, NestJS, RESTful APIs, WebSockets
- **Data & Infra:** PostgreSQL, Redis, InfluxDB, Prisma ORM
- **Systems:** Distributed systems, low-latency backend design, real-time data pipelines, event-driven architecture
- **Foundations:** Data Structures & Algorithms, system design, end-to-end ownership, production debugging

Experience

Pi42 - Software Engineer | June 2024 - CURRENT

- Architected, developed, and scaled latency-sensitive backend and continuous distributed service using **NestJS**, **TypeScript**, **PostgreSQL**, **Redis**, **Prisma ORM**, and **WebSockets**, enabling **high-throughput event handling**, **fault-tolerant coordination**, and **mission-critical internal services**.
- Owned **end-to-end system design and implementation** of **automated request handling platforms** (funding-rate arbitrage and hedge-fund strategies), addressing **cross-exchange state consistency**, **latency optimization**, **retry/backoff logic**, and **failure recovery** through asynchronous architectures, asynchronous workflows, and automated position lifecycle management.

Projects

Multi-Leg Options Hedge Fund | NestJS, REST APIs, WebSockets, Redis (Pub/Sub), Prisma ORM, InfluxDB, ZeroMQ

- Engineered and scaled a **high-performance, volatility-driven routing platform** supporting **multi-leg workflows** across multiple expiries and strike ladders, handling **50K+ contracts/day** with **deterministic, latency-sensitive**.
- Implemented **performance-critical order book ingestion**, **precision action paths**, and **streaming position and risk tracking**, optimized for **high-frequency, message-based environments** with strict **latency and correctness guarantees**.
- Operated the platform at scale, processing **\$1B+/month on Binance** and **\$800M+/month on Bybit**, accounting for **7% of total options volume** through **high-scale, fault-tolerant orchestration pipelines**.

Funding Fee Arbitrage Service

- Designed and delivered the service for **cross-platform automated processing**, enabling **synchronized position management**, **dynamic leverage rebalancing**, and **reliable multi-service dispatch** across external integrations.
- Built a **failure-aware orchestration layer** with **time-window-based dispatch scheduling**, **capital allocation logic**, and **state reconciliation**, maximizing revenue efficiency through **automated accrual optimization** and **high-availability workflows**.

Counter Trading Signal Engine

- Established and drove the **backend** for **near-real-time, high-frequency event decisioning**, ingesting and routing orchestration events via **message-based pipelines** with **secure external API integration**.
- Developed **resilient, idempotent transformation workflows** featuring **exponential-backoff retries**, **batch request handling**, **rate-limit-aware dispatch**, and **database-backed state validation**, achieving **99.9% service reliability** under sustained production load.

Achievements

- Recipient of the Dean's Award for academic excellence during postgraduate studies.
- Two-time qualifier of the **IIT JAM Mathematics** examination (2022, 2021) with **AIR 1148** and **1579**.