

Mohan Narayanaswamy

SOFTWARE ENGINEER

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Summary

- Backend developer with hands-on experience building trading platforms and infrastructure
- Specializing in low-latency, high-throughput system design across **Java**, Go, Scala and C++.
- Built applications using JavaScript (and React), Python, HTML, CSS, SQL
- Strong advocate of Functional Programming, Properties Based Test Framework
- Built cloud applications using Spring-Boot, Cassandra, Elasticsearch, Lucene and Kubernetes
- Proficient in version control, continuous integration and scripting (e.g., Git, Maven, shell)
- Core infrastructure development experience - High availability investment banking cloud applications

Certifications

- CKAD: Certified Kubernetes Application Developer - The Linux Foundation
- Apache Cassandra 3 Administrator Associate Certification - DataStax
- Spring Professional - Pivotal Software, Inc
- Functional Programming Principles in Scala - ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE
- Principles of Reactive Programming (using Scala) - ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE
- CS190.1x: Scalable Machine Learning-Apache Spark - The University of California, Berkeley through edX

Experience

Staff Software Engineer | TradingSystem | MarketPlace | API and Instrument Listing

Singapore

GEMINI - CRYPTO EXCHANGE

July 2023 - Current

- Democratized exchange data by streaming it in binary format to the data platform, enabling SQL access via Databricks
- Integrated Kaiko market data to aggregate external exchange prices and compute optimized mark prices for perpetual contracts.
- Designed and deployed data pipelines to migrate terabytes of data to a new AWS RDS, making structured data available for analytics.
- List new perpetual instruments, work with market-maker and product manager
- Contributed to the design and implementation for APIs exposed to external clients.
- Backend migration from old exchange (JVM Aeron based message bus) to Tibco Ultra Messaging bus

Sr Lead Software Engineer | Macro eTrading Rates Derivatives | MACS | Vice President

JP Morgan | Singapore

MACS-CIB

Dec. 2018 - June, 2023

- Built multiple features for Rates Derivatives Product on OMS using FIX protocol and AMPS data bus
- Integrated auto-quoting feature for RFM/RFQ for rates product for Bloomberg, TradeWeb venues
- Enhanced RDM to manage interest rate swap market data from external venues such as Bloomberg, TradeWeb
- Software Engineering Manager for Margin and Collateral APAC development
- Built margin calculation investigation portal with ticket matching and un-structured data reconciliation (using DAG).
- Enriched multiple applications (using ELK/Grafana/Jaeger) with technology stack of Spring Boot, React, Kafka, Elasticsearch and Apache Cassandra.

APAC Reference Data Engineering Manager | Scala Developer | Semantic Data Model | Vice President

Bank of America|Singapore

REFERENCE DATA-GMOT

Jul. 2014 - Dec. 2018

- Software Engineering Manager for APAC client reference data application development team
- Develop application, scripts and data pipelines to process structured data near real-time
- Developed Spark rules on Cloudera Hadoop distribution for Data Quality Checks.
- Built Business process workflow for Japanese fund on-boarding applications.
- Built parser for bpm workflow DSL using PEG.js and natural language processor to deduce duplicate entities using Apache Lucene.

Java Developer | InMemory Data Grid

ANZ|Singapore

LUXOR DEVELOPER-GMOT

Sep. 2012 - Jul. 2014

- Built TradeRepository for OTC trades supports Rates, FX, and Commodities using Gemfire NoSQL InMemory Data Grid.
- Monte-Carlo simulation engine accesses data using 1000 core HPC grid.
- Developed an automated testing framework to replay 1000s of combinations of OTC Trade lifecycle.
- Built reconciliation for backward binary compatibility and regression-testing.

Risk Software Engineer | Mu/Haskell Quant Tools

Standard Chartered
Bank|Singapore

SABRE INTRADAY RISK PLATFORM

May. 2011 - Sep. 2012

- Developed End-of-Day reconciliation system for MUREX flow trades using embedded database.
- Server side javascript development, stream MXML as Trade Data Repository objects.
- Mu-Script/Haskell development that calculates risk for Interest rate product.
- Developed JUnit tests for Rates and FX derivatives pricing engine.

Investment-Bank Developer | Java/Spring Framework

Credit Suisse|Singapore

SOFTWARE ENGINEER

Apr. 2007 - May. 2011

- Built many applications using Java and Spring Framework.
- Acted as APAC Java Application Platform Architect.
- Built code analyzing graph tool to find duplicate components.
- IT Solution Architect for Private Bank applications.
- Lead a team of java developers to build applications for Private Bank.

Personal Projects and Certifications

DailyPractice.info

- Creating learning habits, specially `Mathematics` for kids in remote villeges of India
- Organizing volunteer meetups, sponsoring `Mathematics` competition, bringing awarness about education to parents who are farmers or economically challenged.

Education

University of Madras

Chennai, Tamil Nadu

MASTER OF COMPUTER APPLICATIONS

Jan. 1999 - Dec. 2001

University of Madras

Chennai, Tamil Nadu

BACHELOR OF SCIENCE [MATHS]

Jun. 1994 - Oct. 1997