Mohan Narayanaswamy

SOFTWARE ENGINEER

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Summary

- Solution architect for high availability investment banking applications
- Built applications using Java, JavaScript (and React), Scala, Python, HTML, CSS, SQL
- Built cloud (AWS) applications using Spring-Boot, Cassandra, ElasticSearch, Lucene and Kubernetes
- Proficient in version control, continuous integration and scripting (e.g., Git, Maven, shell)
- Designed, built scalable data engineering solutions, pipelines and big-data reconciliations using Hadoop, Hive, HBase, Kafka and Apache Spark.

Certifications

- CKAD: Certified Kubernetes Application Developer - The Linux Foundation
- Apache Cassandra 3 Administrator Associate Certification - DataStax
- Spring Professional - Pivtoal 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 | API Developer

Gemini|Singapore

TRADING AND MARKETPLACE DEVELOPMENT TEAM

Jul. 2023 - Current

- Building next generation low-latency exchange and matching engine using C++/Scala
- Developed OMS REST API for MarketPlace Team
- Built data pipelines to process and store ledger data using Kafka, Databricks, RDS and S3
- Built tools to automate listing, and list new instruments on exchange using Python, Scala and SQL
- Built multiple GRPC services to support exchange operations

Senior Lead Software Engineer | Rates Execution | Margin and Collateral APAC | Vice President

JP Morgan|Singapore

CIB - MACRO ETRADING EXECUTION AND DIGITAL POST TRADE TECHNOLOGY

Dec. 2018 - Current

- 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).
- Integrating Margin Calculating application with Post Trade Repository using Spark, Kafka and Cassandra
- 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
- Ensuring data quality for strategic enterprise graph data using hadoop, hive, hbase and Spark
- 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.

Investment-Bank Developer | Java/Spring Framework *Standard Chartered Bank|India*

Software Engineer *Dec. 2004 - Apr. 2007*

- Built applications using Java and Struts Framework.

Developer | Java/Visual-Basic *Aspire Systems|India*

Senior Software Engineer *Oct. 2002 - Dec. 2004*

Developer | Visual-Basic *Bharatplant Consulting Ltd|India*

Software Engineer *Feb. 2000 - Oct. 2002*

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*