Amanpreet Singh

+1 631-312-2565

amanpreet.singh@stonybrook.edu

/amanpreet-singh-k

Education

- **Stony Brook University** — New York, U.S.A.
  Master of Science in Computer Science; GPA: 3.93 — *2019 – 2021*
  - **Courses**: Analysis of Algorithms, Probability & Statistics, Data Science, Natural Language Processing
  - **Teaching Assistant**: CSE 214 - Data Structures (Java), CSE 416 - Software Engineering
- **University of Mumbai** — Mumbai, India
  Bachelor of Engineering in Information Technology; First Class with Distinction (72.9%) — *2011 – 2015*
  - **Courses**: Data Structures and Algorithms, Operating Systems, Discrete Mathematics, Databases

Experience

- **J.P. Morgan Chase & Co.** — Mumbai, India
  Senior Application Developer — *Feb 2018 – Aug 2019*
  - **Data Access Control System (DACS) Authentication**: Authorised access to live prices over JMS based metafluent queue. Crucial in helping the firm avoid audit issues and reduced subscription costs per trader by 50%.
  - **Position/Trades feed migration:**: Spearheaded the development effort in migrating the critical source feeds and fixed several timely bugs reducing the reputational and operational risk.
  - **Trader Analytics**: Introduced statistical enhancements in the core application such as absolute and percent variance, market share and standard deviation of historical stock prices to aid in trading decisions.
  - **Memory Optimization**: Application heap usage profiling and G1 Garbage Collection tuning through careful analysis of humongous allocations resulting in 80% fewer memory related issues.
  - **Real-Time Pricing**: Developed a component using Spring, REST, JMS and TDD principles that approximates real-time risk using live prices; and publishes them out. It helped retire a legacy system saving the firm ∼$250k.

  Application Developer — *July 2015 – Jan 2018*
  - **Risk Management System**: Worked extensively on the core app used by traders for visualizing and hedging risk;
    1. Optimized the data feed using LMax Disruptor, a low latency Java queue for upto 20% faster processing.
    2. Process startup time improvement by 50% through the use of Multi-threading and Spring annotations.
  - **Market Data Source**: Framework for validating the functionality of a critical market data publishing app and reporting results using Java MXBeans and Apache POI. Reduced the manual testing effort by 90%.
  - **Quick-Deploy**: Streamlined application deployment, startup and monitoring on Unix production servers.
  - **MongoDB High availability**: Team point of contact for MongoDB. Built a mechanism to switch from replica set to standalone instance on the fly in case of a data center failure ensuring business continuity.

Technical Skills

- **Languages**: Java, Python, Unix Shell Scripting, SQL
- **Frameworks**: Spring, Spring-Boot, Swagger, JUnit, Mockito, Java MBeans, JMS, JBehave
- **CI Tools**: Gradle, Team City, Git, Bitbucket, Ant, Jenkins, YourKit
- **Databases**: Sybase ASE, MongoDB, MySQL

Projects

- **Toxic Online Comments**: Deep learning model for identifying Toxicity in Wikipedia comments.
- **Email Template Generator**: Built on the handlebars framework, creates templates to send out reactive email alerts.
- **Pratham NGO**: A system to keep track of the underprivileged students supported by the NGO. Migrated data from Salesforce to Azure SQL using Pentaho Kettle and developed a Java utility for reporting faulty data.
- **Reliable UDP**: Server-Client Exchange with Checksum validation and re-transmission in case of corrupt data.
- **Physual(*Capstone*)**: Text to scene system to visualize Mechanics problems using NLP, Java 3D and Blender Models.
- **Machine Learning/NLP**: News Article Classifier, Products Review Sentiment Analyser and Songs Recommendations