# Amanpreet Singh

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# **EDUCATION**

### Stony Brook University

New York, U.S.A.

Master of Science in Computer Science; GPA: 3.93

2019 - 2021

- o 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

o Courses: Data Structures and Algorithms, Operating Systems, Discrete Mathematics, Databases

# EXPERIENCE

## J.P. Morgan Chase & Co.

Mumbai, India

Feb 2018 - Aug 2019

Senior Application Developer

- 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%.
- 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.
- 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.
- 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