

# Shantanu Singh

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## Education

### Stony Brook University

Aug' 22 - May' 24

*Masters of Science, Computer Engineering — CGPA 3.85/4.0*

*New York, USA*

**Relevant Coursework:** *Operating Systems, Machine Learning, Computer Vision, Digital System Design, Wireless Networks, Network Algorithms.*

### Netaji Subhas Institute of Technology (NSIT), University of Delhi

Aug' 15 - June' 19

*Bachelor of Engineering*

*Delhi, India*

**Relevant Coursework:** *Data Structures & Algorithms, Principles of Programming, Object Oriented Programming, AI, Microprocessor System Programming.*

## Work Experience

### HSBC Inc.

Pune, India

*Senior Software Engineer*

Mar'22 - Jul'22

- Spearheaded team of developers in the design and implementation of high-traffic microservices for **HSBCnet**, the biggest commercial banking portal. Built a scalable architecture to support more than **5M+** daily API hits, oversaw the entire lifecycle to ensure the delivery of seamless, business-critical services.
- Modernized legacy systems by transitioning from SOAP to RESTful services using **SpringBoot** and **PostgreSQL**, improving **P99 latency by 30%**. Documented high-level designs on Confluence, guiding over **200+** developers.
- Mentored 10+ developers in shaping their skills in **API design** and architecture, teaching fundamentals and best practices, while leading code reviews to ensure high-quality code delivery.

*Software Engineer*

Jul'19 - Mar'22

- Designed a cheque deposit portal for China-specific users with **MuleSoft API**, automating the manual process and achieving a 90% reduction in processing time, while significantly enhancing the user experience.
- **Single-handedly developed** and maintained a critical Image Records API, achieving **3M+** daily hits, updated compliance regulations for two years, and produced essential documentation that was utilized by **300+** developers.
- Enhanced product quality and reliability by implementing a comprehensive testing strategy that encompassed **A/B testing**, **unit testing** with **JUnit**, and integration testing, elevating test coverage to 90%.
- Oversaw the observability and monitoring of APIs using **AppDynamics** and **Splunk**, and facilitated deployments through **Jenkins** pipelines. This approach contributed to achieving **99.99%** API availability, markedly improving uptime and performance.
- Upgraded HSBC's trading platform services, transitioning from Java 6 to Java 8, and incorporated resilient microservices practices including Circuit Breakers and Rate Limiters. Enhanced security with **API Gateways**, **OAuth**, and **JWT** tokens for secure financial transactions.
- Displayed strong initiative in **on-call** support roles, swiftly and effectively addressing site issues to enhance system reliability, including successful execution of quarterly **chaos tests**, alongside improvements in **logging** and post-deployment communication strategies within HSBC's commercial banking division.

## Technical Skills

**Programming Languages:** Java, Python, C, C++, NodeJs, React, JavaScript, TypeScript, Redux.

**Databases & Frameworks:** MySQL, NoSQL, PostgreSQL, GraphQL, SpringBoot, Redis, Kafka, JUnit, Mockito, Jest.

**Platforms & Tools :** Docker, AppDynamics, GCP, Kubernetes, SonarQube, Checkmarx, Splunk

**DevOps & Project Management :** Git, Jira, Agile Methodology, Jenkins, GitLab, Gradle.

## Academic Projects

- **Go Analytics Engine:** Explored the capabilities of Go by designing and implementing a microservices architecture for a real-time analytics platform, focusing on understanding concurrent programming patterns and optimizing system efficiency, which fostered a deeper comprehension of modern back-end technologies.
- **Mining Suggestions from MATLAB Forums (Undergrad Project):** Developed an NLP solution using BERT & ULMFit models to extract suggestions from MATLAB forum comments, achieving the highest marks in class with findings leading to further research.

## Extracurricular & Awards

- **Global Graduate Programme, HSBC:** Recognized for exceptional performance through selection in the prestigious HSBC Aces Programme and invited to the induction event in London.
- Won **1st Prize** in **MPlan Nokia Case Study** at Delhi Marketing Conclave, leading a 4-member team to develop a strategic solution for Nokia's production line, attracting 200+ team entries.