DIVYAANK TIWARI

Stony Brook, NY +1 (631) 739-3822 dtiwari@cs.stonybrook.edu https://divyaankt.github.io/
https://github.com/divyaankt https://www.linkedin.com/in/divyaank-tiwari

EDUCATION

Stony Brook University, Stony Brook, NY, USA August 2023 - May 2025
Master of Science in Computer Science *GPA - 3.93/4*
***Courses**: Distributed Systems, Decentralized Data Management, Operating Systems, Analysis of Algorithms*
***Voluteering**: Member of Artifact Evaluation Committee for ASPLOS '25 & FAST '25*

Sardar Patel Institute of Technology, Mumbai, MH, India August 2016 - June 2020
Bachelor of Engineering in Computer Engineering *GPA - 9.22/10*

SKILLS

- **Languages:** Scala, Java, Python, C, C++ bash, Golang, SQL, JavaScript, HTML, CSS, Promela
- **Databases:** Oracle, SQL Server, SQLite
- **Frameworks:** Apache Ignite, Caffeine, gRPC, Spring, Prometheus, Grafana, Loki, React, Node.js, Spin
- **Tools:** Git, Docker, Kubernetes, CI/CD, Azure DevOps & App Insights, VisualVM, JFR, Akamai, OpenAPI

PROFESSIONAL EXPERIENCE

Stony Brook University **Stony Brook, NY, USA**
Graduate Research Assistant at Prof. Erez Zadok's File systems and Storage Lab *August 2023 - Present*

- Investigated a non-deterministic, kernel oops bug in the Journaled File System (JFS) using Metis.
- Submitted 2 patches [1, 2] to the Linux kernel for the aforementioned bug.

MSCI Inc. **Mumbai, MH, India**
Associate Quantitative Developer (Backend Engineering, SDE - II) *September 2022 - August 2023*

- Improved average response time for Exposure API by a staggering 400% by implementing a gRPC interface.
- Implemented a Recursive Descent Parser to transform gRPC objects to custom domain objects.
- Developed a batch-processing utility that compares two XML files (1-10 GB), and generates comparison reports.
- Designed an Apache Ignite-based cache for the Exposure API that backs the in-memory, Caffeine cache.
- Spearheaded performance engineering efforts to optimize Ignite cache operations and reduce memory-footprints.
- Achieved a 5-fold reduction in API response time for Fixed Income assets and a 60-fold drop for Equity assets.

MSCI Inc. **Mumbai, MH, India**
Associate Site Reliability Engineer (SDE - II) *January 2022 - August 2022*
Analyst Site Reliability Engineer (SDE - I) *June 2020 - December 2021*

- Promoted from an Analyst to an Associate, one year before the traditional duration!
- Entrusted with the stability of Index applications and infrastructure as the Lead SRE for Asia-Pacific shift.
- Engineered an application to aggregate performance metrics from the distributed Index calculation service.
- Constructed a compliance portal for tracking Index Applications and Databases per EU Benchmark Regulations.
- Crafted Splunk dashboards utilizing data from Index calculation service logs to identify database bottlenecks.

Siemens **Pune, MH, India**
Data Science Intern *January 2020 - June 2020*

- Developed a Time Series model (Mean Absolute Percentage Error: 7.17%) for product sales prediction.
- Assisted in the migration of SCM Team's reporting platform to ThoughtSpot by designing database schemas.
- Modelled Product-delivery data present in SAP HANA as a Knowledge Graph using Amazon Neptune.

PROJECTS

Metis: Model checker for File Systems | *C, C++, Promela, Spin, bash, Model Checking, Kernel Debugging*

- Compressed Metis' Replayer to a single file, achieving a 60% decrease in code size.
- Implemented Containerized Swarm Verification (Parallel Model Checking) support for Metis using Kubernetes.

Distributed Key-Value Store using PBFT | *Java, SQLite, Socket Programming*

- Developed a scalable, sharded, Byzantine fault-tolerant key-value store (~6000 LOC) in Java.
- Designed the store's transaction processing engine using 2PC, 2PL and Linear PBFT algorithms.