Harshavardhan P

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EXPERIENCE

- **Citigroup** — Chennai, TN
  Senior Software Engineer — *Aug 2020 - Present*

  ○ **FX Trade Processing**:
    * Architected and delivered a complete ground-up rewrite of a critical low-latency, high-throughput FX trade processing system, capable of handling a median load of 2,000 requests per second.
    * Developed a comprehensive reconciliation platform that synchronizes data across multiple databases and middleware systems, validating trade processing outcomes while providing robust reporting functionality.

    Tech Stack: Spring Boot, Java, Sybase/Oracle, Solace

  ○ **Observability Metrics Engineering**:
    * End-to-end ownership of Grafana at Citi, encompassing engineering, deployment, monitoring, and scalability. Managed all aspects from initial architecture to user onboarding and deployment, ensuring optimal performance and adoption across the organization
    * Engineered custom Grafana administration tools for managing dashboards, data sources, and user accounts across multiple environments. These solutions streamlined operations team workflows, facilitating efficient migrations and robust backup processes.
    * Involved in development of observability agent which is a framework to collect telemetry data and capable of integrating with multiple prometheus exporter. This helped reduce the number of agents deployed across the servers for generating telemetry data and was received very well by app teams.

    Tech Stack: Golang, Ansible, Prometheus, Grafana, Postgres

  ○ **Developer Tooling And Languages**:
    * Developed an automated chocolatey package creation framework which reduced software packaging time by at least 30% and helped team deliver products at greater speed.
    * Implemented a developer portal to help programmers discover IDEs and language runtimes available in Citi and help them make informed decision when choosing the tooling for their project.

    Tech Stack: Python, Angular, Nginx, MongoDb

- **GingerMind.AI** — Bangalore, KA
  Software Engineer Intern — *Oct 2018 – July 2019*

    * Developed a pdf reader for visually impaired users to read pdf from more than 10 languages. The feature was very well received by the users.
    * Implemented security mechanism to prevent reverse engineering of eye-d app and prevented malicious users from tampering the app.
    * Developed an algorithm for lane departure warning system using image processing techniques for eyed smart glass

    Tech Stack: Android, Java, Python, OpenCV

EDUCATION

- **Georgia Institute of Technology - OMSCS** — Remote
  Master of Science in Computer Science; — *Aug. 2022 – Dec. 2025*

- **SSN College of Engineering** — Chennai, TN
  Bachelor of Engineering in Computer Science; — *Aug. 2016 – July. 2020*

PROJECTS

- **Zinger E-Commerce Framework**: Open source framework for building E-Commerce marketplaces like Swiggy/Zomator. Used by people from India and Philippines
- **Kumki Obfuscator**: Developed a tool to protect android apps from static code analysis attacks by decompilers. The tool implements a variety of data and control flow obfuscations to prevent decompilation
- **Distributed KV store**: A sharded key/value store using PAXOS for leader election and request ordering. Based on university of Washington Distributed System labs