JYOTIPRAKASH PANDA

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EDUCATION

SUNY Stony Brook University, Stony Brook, NY **August 2022 – May 2024**
Master of Science in Computer Science ***GPA: 3.7/4.0***

SKILLS

• **Languages:** Python, **Java**, C, SQL, JavaScript, **C++**, Bash, Go, HTML, **React JS**, CSS, UNIX
• **Development Tools:** Microsoft Azure, **AWS** (EC2, Lambda, S3, CloudFormation, VPC, IAM), Jenkins, Docker, Kubernetes, Terraform, Ansible, Helm, Visual Studio, IntelliJ, Eclipse
•**Technologies:** Spring Security, **Hibernate**, JPA, Kubernetes Helm Charts, **Spring Boot**, Kafka, RabbitMQ, Redis, MongoDB, Prometheus, Grafana, ELK Stack, OAuth, **Git**, Node.js, gRPC, Load Balancers, **Routing**, Jenkins Pipelines, **MySQL**, Docker Compose, **Microservices Architecture**, SonarQube, **RESTful & SOAP APIs**, Snyk, Agile/Scrum Methodologies, Distributed System

WORK EXPERIENCE

Stony Brook University New York, USA
Research Assistant, Research Data Management Systems **June 2024 – Present**

- Reduced data processing errors by 20% by engineering backend services for research data using **Java, Spring Boot**.
- Improved system performance by resolving backend issues such as high **API latency** and data inconsistencies.
- Streamlined data integration implementing **Bash** automation scripts and scheduling recurring tasks using Cron jobs.
- Reduced software bugs by 25% and achieved 85% code coverage by executing unit and integration tests using **Mockito**.
- Improved system stability under high load by implementing **rate limiting** mechanisms to prevent API abuse.

KPMG Bengaluru, India
Software Developer, Real-Time Data Processing and Analytics Department **December 2021 – August 2022**

- Developed tax system modules using **Spring Boot** and **Hibernate**, ensuring seamless data flow between systems.
- Optimized **SQL** queries, integrated **MongoDB** for distributed data storage, improving data retrieval speeds by 25%.
- Deployed and configured **Kafka** and RabbitMQ for message streaming, enhancing real-time data processing capabilities.
- Utilized Prometheus and Grafana for system monitoring, improving issue detection time by 15%.

Highradius Corporation Odisha, India
Software Developer, Cloud Infrastructure and DevOps Department **May 2020 – December 2021**

- Improved real-time payment validation by adding fraud detection logic using **Python, Node.js,** and gRPC.
- Implemented **CI/CD pipelines** using Jenkins, **Docker**, reducing deployment time by 30% .
- Optimized database queries and integrated Redis for caching, reducing API response time by 40%.
- Deployed and managed containerized applications with Kubernetes and Helm Charts, improving scalability.
- Utilized **AWS** services including **EC2, S3, Lambda**, and CloudFormation to automate infrastructure provisioning.
- Configured load balancers and implemented auto-scaling groups in AWS to ensure high availability.

PROJECTS

Expense Sharing App **March 2024 - August 2024**

- Spring Boot–based **REST API** for expense-sharing platform with support for users, groups, expenses, and settlements.
- Implemented group-level expense tracking, SettleUp logic to minimize debt cycles, with **MySQL** for persistent storage.

URL Shortener Service **August 2023 - December 2023**

- Developed a high-performance URL shortener handling 1000+ requests/sec using **Node.js, Express,** and MongoDB.
- Implemented efficient algorithms for unique short code generation, reducing collision probability to <0.001%.

Sorting Visualizer and Path Find Visualizer **January 2023 - May 2023**

- Built interactive web apps to visualize sorting algorithms (Merge Sort, Quick Sort, Heap Sort) using ReactJS and D3.js.
- Implemented pathfinding algorithms (**Dijkstra's, BFS, DFS**) for real-time visualization with dynamic grid barriers.

Implementing Raft: A Fault-Tolerant Consensus Algorithm - Distributed Systems **May 2022 - October 2023**

- Built a distributed, sharded key-value store with optimistic concurrency control in **C++** supporting basic DB operations.
- Implemented Raft, consensus algorithm ensuring fault tolerance, consistency through leader election and log replication.

Scalable E-Commerce Platform **December 2022 - February 2023**

- Developed a **microservices**-based e-commerce platform using **Java**, Spring Boot, and Kafka, ensuring scalability.
- Deployed containerized services using Kubernetes on AWS, integrating Redis for caching.