

SHREYA GHOSH

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WORK EXPERIENCE

Programmer Analyst, Zifo R&D Solutions

Sep 2022 - Feb 2024

- Created scalable **Java** and **Python** microservices from scratch, incorporating **Apache Kafka** for seamless data streaming to and from 3 different LIMS software.
- **Automated system backup and maintenance** which reduced the manual intervention by 90%.
- Leveraged **AWS Lambda** and **Cloud Watch Events** to establish **event-driven triggers** for transforming data, which led to increased data throughput in Benchling by 25%.
- Prepared **python scripts** to transform instrument **raw data into standardized JSON** files, which led to increase in data quality by 70%.
- Conducted peer **code reviews** and utilized **SonarQube & Pylint** tools to maintain coding standards.
- Engaged in **training and mentoring** for 3 new batches of freshers, improvising the training process.

Associate Analyst, Zifo R&D Solutions

Aug 2021 - Aug 2022

- Designed and developed more than 10 **Java microservices** and **GRPC services**, utilizing **Spring Boot & Quarkus** for efficient backend development.
 - Incorporated 2 types of databases - tabular data in **PostgreSQL** and files in **MongoDB** - implementing **hibernate JPA** for data integrity.
 - Leveraged **Apache NiFi** to automate data collection and extraction, reducing processing time by 90% from sources like files, databases, and REST APIs.
 - Introduced custom workflows for automating laboratory operations by 90% using **Camunda BPM**.
 - Achieved a 30% improvement in message delivery efficiency with **Apache Kafka**, facilitating real-time activity updates and email notifications.
 - Collaborated with cross-functional teams to create and update more than 30 **detailed low-level design documentations**, including activity, sequence and class diagrams using **PlantUML**.
 - Increased test coverage from 60% to 90% through comprehensive unit tests using **JUnit** and **Mockito**, validating critical business cases.
 - Optimized API response time by 25% through rigorous performance testing using **JMeter**.
 - Deployed microservices in **CI/CD pipeline** using **Azure DevOps**, **Docker** and **Kubernetes**.
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EDUCATION & SCHOLARSHIPS

Master of Science in Bioinformatics, Pondicherry University

Jul 2019 - Jul 2021

Awarded Merit Scholarship in Sep 2019

9.65 CGPA

Bachelor of Science in Zoology, University of Calcutta

May 2016 - May 2019

7.35 CGPA

SKILLS

- **Programming Languages:** Core Java, J2EE, Python
- **Frameworks:** Spring Boot, Quarkus, Spring MVC, Hibernate JPA, Flask, SQLAlchemy
- **API Development:** Flask-restful, gRPC, JAX-RS, Protobuf, REST Webservices
- **Architecture:** Microservices
- **Database:** MongoDB, PostgreSQL
- **Cloud Services:** Amazon Web Services(AWS), AWS Lambda, AWS S3
- **Tools & Platforms:** Apache Kafka, Apache Maven, Apache Nifi, Azure Devops, Camunda BPM, Talend
- **Testing:** JMeter, JUnit, Mockito, Pylint, SonarQube
- **Soft Skills:** Leadership, Project Management
- **Others:** Data Structures & Algorithms, PlantUML, Docker, Git, Kubernetes

PROJECTS

File-Based Integration with Benchling LIMS

Oct 2023 - Dec 2023

Role: Project Manager & Lead

Skills: Python, Flask, Benchling SDK, Apache Kafka, Rest API Integration.

- Orchestrated the seamless *integration of 10 file-based lab instruments* with Benchling LIMS, *automating data extraction, standardization, metadata tagging for easy retrieval and archiving processes*; achieved a remarkable *90% improvement* in data transfer efficiency.
- *Led integration efforts, oversaw project planning, stakeholder coordination, team management, and implementation of automated processes.*
- Ensured *strategic direction, issue resolution, and collaboration* among the team members.

File-Based Laboratory Instrument Integration

Jan 2023 - Aug 2023

Role: Developer & Production Support

Skills: Java, Apache Nifi, Spring Boot, SOAP Web Services, MongoDB, PostgreSQL.

- Integrated 25 laboratory instruments with a cutting-edge FAIR data and lab process automation solution.
- Managed customer support and resolved live production tickets which led to increase in customer satisfaction by 10%.
- Completed 2 change requests by customer, created additional functionalities, deployed and tested the application, documented the changes in system design.

Cross-Platform Instrument Integration Solution

Dec 2021 - Nov 2022

Role: Java Backend Developer

Skills: Java, Microservices, Quarkus, PostgreSQL, MongoDB, Hibernate, Apache Nifi, Camunda BPM, Rest APIs, gRPC, JUnit, Mockito.

- Developed a product for automating lab operations tool with a modular approach, integrated with lab instruments and extract data using file and database query based methods, REST APIs, and serial port communications.
- Contributed to end to end product cycle: Performed requirement analysis, planned and implemented important functionalities through microservices, and conducted comprehensive testing.