SAYANTAN BHATTACHARJEE

Computer Science and Engineering student

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SUMMARY

Computer Science and Engineering student specializing in Software Testing and Quality Assurance, with a minor in History. Proficient in developing and automating testing frameworks using Selenium and Rest Assured, assuring reliability, scalability, and performance. Strong exposure to particle physics research projects, applying analytical, theoretical, and mathematical modelling approaches to explore advanced physics concepts, enhancing deep problem-solving and scientific reasoning abilities. Background in history provides a unique perspective on technology's evolution and its long-term societal impact.

SKILLS

- JUnit
- TestNG
- Selenium
- Maven
- Jenkins
- Java
- C
- C++
- Python
- JavaScript
- HTML
- CSS
- ReactJS
- SQL
- NodeJS

EXPERIENCE

TECHVANTO ACADEMY   06/2025 – 07/2025
JAVA Programming Intern
- Developed and implemented advanced Java modules, utilizing multithreading, collections, JDBC, and exception handling for efficient code solutions.
- Gained practical experience in Java application development, emphasizing object-oriented design and scalable architecture.
- Focused on file handling techniques to enhance performance and scalability of applications.

PROJECTS

Distributed Microservices End-to-End Test Automation Framework
- Built a multi-layer automation framework covering UI + API + DB + queue systems using simulated microservices.
- Validates real-world workflows by chaining tests across multiple dependent service calls and data checkpoints.
- Runs inside Docker containers for isolated repeatable testing with CI pipeline execution tracking and reporting.
- Achieved 95% automation coverage, 0% reduction in execution time, and zero environment drift across 20+ successful parallel test runs.

Automated Medical Diagnostic Workflow & Compliance Testing Platform

- Built an automation system to validate digital medical workflows like patient intake symptoms diagnosis result across mock EMR microservices.
- Added medical data validation, encryption, and compliance-like auditing checks using test-driven rule enforcement and negative test scenarios.
- Stored screenshots, logs, and traceability chains for regulatory-style documentation and evidence-based reporting.
- Achieved 100% reproducible workflow validation, 90% reduction in manual re-testing, and successful execution of more than 50 complex medical decision-rule test flows.

Automated Bank Management System

- Created an automated end-to-end Bank Management System using Java Swing, JDBC, and MySQL for seamless account operations.
- Supports account creation, login, deposit, withdrawal, balance check, transaction history, and account closure with GUI-based interaction.
- Implemented secure database connectivity, validation, batch insertion, exception handling, and SQL-driven data retrieval for reliability.
- Successfully achieved 100% functional coverage, reduced manual workload by 80%, and executed 50+ automated banking operations without failure.

ACCOMPLISHMENTS

National Youth Festival 2025 Representative   01/2025
Union Minister of Youth Affairs, Shri Mansukh Mandaviya

- National Youth Festival 2025 Representative, selected from a pool of over 30 lakh candidates across India to represent the state of Tripura at the National Youth Festival 2025, presenting ideas for "Tech for Viksit Bharat 2047", before national leaders, policymakers, and the Hon'ble Prime Minister. Received a certificate of recognition from the Union Minister of Youth Affairs, Shri Mansukh Mandaviya, for my contributions.

National Space Day 2025 - National Quiz Winner   21/10/2025
Government of India

- National Space Day 2025 - National Quiz Winner, selected as one of the top 100 winners in India and participated in the National Space Day Quiz organized by the Government of India. Received an invitation for a field visit to the Indian Space Research Organisation (ISRO) at Sriharikota.

President of ConverseE+ Club   2025
Lovely Professional University

- Serving as the President of the ConverseE+ Club at LPU, leading and coordinating student-driven teams to foster a collaborative environment. Managing multiple student events, ensuring structured planning, and providing mentorship.

CPE Multi-Event Achievement Recipient
Centre for Professional Enhancement (CPE), Lovely Professional University
• Recognized as a multi-event winner in various competitive activities organized by CPE, LPU, including debates, quizzes, vocabulary contests, and aptitude-based evaluations, demonstrating strong analytical, communication, and critical reasoning skills.

RESEARCH

Particle-Dependent Time Dilation Sensitivity Study

In Progress

Investigating whether different subatomic particles exhibit varying effective time-dilation responses under ultra-strong gravitational, magnetic, and rotational fields near compact cosmic objects; evaluating how intrinsic properties such as mass, spin, charge, and magnetic moment may influence particle-specific temporal behavior in extreme astrophysical environments.

Early-Universe Freeze-Out Particle Time-Trace Hypothesis

In Progress

Exploring whether certain early-universe freeze-out particles could retain unique intrinsic temporal evolution properties due to decoupling during non-equilibrium cosmological phase transitions; assessing their potential role as long-term cosmic time-reference indicators by analyzing theoretical stability, interaction history, and distinguishable observational signatures within modern cosmology.

EDUCATION

Lovely Professional University   2023 – 2027

Bachelor Of Technology(B.Tech)-Computer Science And Engineering   Punjab, India

CGPA: 8.5

Hindi Higher Secondary School   2020 – 2022

SENIOR SECONDARY   Agartala, Tripura

Percentage: 93.6%

Holy Cross School   2019 – 2020

MATRICULATION   Agartala, Tripura

Percentage: 96%