

Nilashis Saha

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Objective

Full-stack software engineer dedicated to building scalable systems and intelligent solutions. Experienced in leveraging secure authentication mechanisms, database optimization, and emerging technologies. Committed to delivering robust, user-centric applications through clean code, performance optimization, and advanced system design principles while advancing innovative technology practices.

Education

Bachelor of Technology in Computer Science and Engineering <i>Adamas University, Kolkata, West Bengal</i>	<i>2022 – Present (Expected 2026)</i> CGPA: 9.17 / 10
Senior Secondary Education <i>Kalyani Public School, Barasat, West Bengal</i>	<i>2019 – 2021</i> Percentage: 82.60%
Secondary Education <i>Douglas Memorial Higher Secondary School, Barrackpore, West Bengal</i>	<i>2013 – 2019</i> Percentage: 90%

Technical Skills

- **Frontend:** HTML5, CSS3, JavaScript (ES6+), React, React Native, Tailwind CSS
- **Backend:** Laravel, Flask, Node.js, Express.js, REST APIs
- **Databases:** MySQL, MongoDB
- **Languages:** Python, PHP, Java, JavaScript, SQL
- **DevOps & Tools:** Docker, GitHub Actions, Google Cloud Console, Git, GitHub
- **Additional:** Authentication (JWT & Google OAuth), Image Processing, Web Scrapping (Selenium)

Experience

Full-Stack Development Intern – VLED Lab, IIT Ropar	<i>Jan 2026 – Mar 2026 (Ongoing)</i>
• Developing full-stack MERN applications using React, Express.js, MongoDB, and TypeScript under Prof. Sudarshan Iyengar's mentorship. • Solving structured case studies that bridge theory and industry-standard development practices in a research-driven environment. • Contributing to real-world projects alongside the VLED Lab development team, building portfolio-worthy features that reflect production-level workflows and best practices.	
Software Development Intern – Department of CSE, Adamas University	<i>May 2025 – Jan 2026</i>
• Built a PhD Progress Tracker System to manage doctoral students' milestones, automating progress notifications. • Developed PBAS (Performance-Based Appraisal System) to streamline faculty evaluation, reducing manual work. • Implemented role-based access control and interactive dashboards, improving usability for 25+ faculty members.	
Cybersecurity Research Intern – University College Cork (UCC), Ireland	<i>Jun 2025 – Sep 2025</i>
• Developed a Flask web application for DICOM medical image viewing and processing data with secure upload and visualization features. • Implemented AES-256 encryption with randomization techniques (random IVs, salts, padding) to prevent side-channel attacks and protect sensitive patient data during storage and transmission. • Conducted security testing to identify timing-based vulnerabilities, implementing countermeasures including constant-time operations and random delays to prevent key-recovery attacks.	
Software Development Intern – KATSI Canada, Toronto	<i>Aug 2024 – Apr 2025</i>
• Co-developed an OFAC List Checking Web App using PHP & MySQL, improving compliance checking speed. • Created system diagrams using Visual Paradigm and Figma for accurate project planning as per system flow. • Conducted manual test cases to ensure zero critical bugs and deployed the website on Hostinger.	
Junior Research Collaborator – The Future Network, Kolkata	<i>Sep 2023 – Apr 2024</i>
• Built backend scripts in PHP to store real-time eye-tracking data into MySQL for research analysis. • Developed frontend dashboard using HTML, enabling visualization of tracking data for experiments.	

Projects

Delivery Hub – Peer-to-Peer Logistics Platform

- Built a comprehensive logistics backend in Node.js + Express + MySQL, featuring role-based dashboards for Senders and Delivery Partners using React Native.
- Engineered a robust Automated Testing Suite using Jest & Supertest, achieving high test coverage for authentication and order management flows.
- Designed 20+ manual test cases and API validation scripts (Postman), simulating real-world edge cases like race conditions and network failures.

Student Portal – Full-Stack Web Application

- Developed a student information system in PHP + Tailwind CSS + MySQL, used by 1,500+ students.
- Created Admin Dashboard for 25+ faculty members to track student attendance, progress, and academic data.
- Implemented secure authentication, real-time updates, and responsive design across desktop & mobile.

University Research Portal – PhD Progress Tracker

- Developed a comprehensive system for PhD scholars to track research progress, upload publications, and manage IP records using Laravel + MySQL.
- Created an administration portal for faculty verification and approval workflows with secure access control.

Scribe – Real-time Chat Application

- Built a real-time messaging platform using Python (Flask) + Socket.io, enabling instant communication across multiple chat rooms.
- Implemented persistent message storage with MongoDB, ensuring chat history is preserved across sessions.
- Designed a responsive, user-friendly interface with Tailwind CSS that supports up to 5 concurrent users per room.

Reddit Clone – Social Media Platform

- Built a full-stack Reddit clone with Node.js + Express + MongoDB featuring post creation, image uploads, and up-vote/downvote functionality.
- Implemented threaded commenting system with nested replies and real-time interaction tracking.
- Automated end-to-end testing using Selenium to validate user interactions, form submissions, and post and comment management workflows.

Certifications

- Introduction to Algorithms and Analysis – NPTEL (Nov 2025)
- Problem Solving Through Programming in C – NPTEL (May 2024)
- The Joy of Computing Using Python – NPTEL (Nov 2024)
- Digital Transformation with Google Cloud – Google (Nov 2023)
- Infrastructure and Application Modernization with Google Cloud – Google (Nov 2023)
- Innovating with Data and Google Cloud – Google (Nov 2023)
- Understanding Google Cloud Security and Operations – Google (Nov 2023)
- Programming with Python – upGrad (Jul 2023)
- Artificial Intelligence in Real World – upGrad (May 2023)
- Introduction to Programming Using Python – Programming Hub (Jul 2023)