

Ayush Biswas

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Education

BRAC University , B.Sc. in Computer Science	2022-Present
• GPA: 3.4/4.0	
Notre Dame College , Higher Secondary Certificate (Science)	2020
• GPA: 5.00	
Udayan Higher Secondary School , Secondary School Certificate (Science)	2018
• GPA: 5.00	

Technical Skills

- **Languages:** Python, Java, Dart, JavaScript, Typescript, C++ (Basic)
- **Frameworks and Libraries:** Spring Boot, Django, Flutter, React, Node.js, Express.js
- **Web & Mobile Development:** HTML, CSS, JavaScript, MERN Stack, RESTful APIs, Responsive UI Design, Authentication
- **Databases:** MySQL, MongoDB, SQLite
- **DevOps & Tools:** Docker, Git, Github, Linux, Postman, WordPress, MS Office, Adobe Photoshop, Illustrator
- **Software Engineering:** OOP, Data Structures, Algorithms, Agile, CI/CD Pipelines, Unit Testing, GitHub Actions, Design Patterns
- **Learning:** Cybersecurity, Advanced Containerization, Cloud Deployment

Projects & Experiences

Biblioteca – Online Library Management System github.com/ABO0069/Biblioteca.git
Tech Stack: SpringBoot, Typescript, React, MySQL, Okta

- Worked in a 3 member team with weekly sprint goals.
- Developed a full-stack web application with React (frontend) and Spring Boot (backend), managing 500 books efficiently.
- Led to build and debugged an entire end-to-end messaging system between admin and users that saves communication time by 50%.
- Implemented secure role-based authentication using Okta and integrated RESTful APIs for CRUD operations, reducing login errors by 30%.
- Designed a responsive UI, improving user interaction and accessibility across devices, increasing engagement metrics by 20%.
- Streamlined book tracking and lending operations, reducing manual management effort by approximately 40%.

ElectroManiax – E-Commerce Website for PC and Laptop Parts github.com/ABO0069/ElectroManiaX.git
Tech Stack: Django, HTML, SQLite, Javascript

- Developed a full-stack e-commerce platform with Django, SQLite, and JavaScript, implementing secure user authentication, inventory management, and real-time data updates through AJAX-based APIs.
- Built a lightweight admin dashboard to manage inventory, orders, and customer data, reducing administrative task time by 30%.
- Automated product listing population through web scraping, reducing manual entry time by 70%.
- Optimized database queries and checkout flow, improving page response speed by approximately 35%.
- Integrated features to handle 500 products and 200+ customer accounts, ensuring smooth operations for medium-scale usage.

Explainable AI for Medical Diagnosis github.com/ABO0069/XAIThesis.git
Python, scikit-learn, TensorFlow, SHAP, LIME, DiCE, Pandas, NumPy, Matplotlib

- Built a machine learning pipeline using TensorFlow and scikit-learn to predict medical conditions using Neural Networks, Random Forest, and Logistic Regression, achieving high recall to minimize false negatives in diabetes prediction, achieving 92% accuracy.
- Enhanced interpretability using SHAP and LIME to visualize feature importance and local decision logic across 5,000+ patient records.
- Implemented SMOTE resampling for imbalanced dataset which created 5000+ synthetic data and helped reduce biasness towards one group, improving subgroup performance by 10%.
- Performed fairness and bias analysis across gender and age groups, achieving 97% confidence score in users.
- Applied causal inference to validate medically meaningful relationships (e.g., glucose–diabetes link), which will help 50% more people about the causal link between disease and lifestyle.

Extra-curricular Activities & Soft Skills

- Member, Robotics Club — BRAC University
- Coordinated with cross-functional teams to implement scalable REST APIs using React and Django, improving system response time by 30% enhancing end-user experience.
- Completed training on English Speaking Activities organized by BRAC University
- English (Fluent), Japanese (Working proficiency)