AKIB OSMANI



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Personal Statement

Adaptable. Efficient. Cooperative. A Computer Science and Engineering student at AIUB focused on Information Systems, development management, and AI/ML research. Passionate about translating complex data into actionable insights through academic publication and technical leadership. A highly communicative professional effective at managing development lifecycles, adopting new technologies, and empowering collaborative teams.

Education

BSc in Computer Science & Engineering — Expected Graduation Year 2027
Major in Information Systems — CGPA: 3.90
American International University – Bangladesh

Higher Secondary Certificate — Passing Year 2022
BAF Shaheen College Dhaka — Science, GPA: 5.00

Technical Skills

Data Analytics & ML: Pandas, NumPy, scikit-learn, Matplotlib, Seaborn, Statistical Analysis, Predictive Modeling (XGBoost, LightGBM, CatBoost, Random Forest, ARIMA), Computer Vision

Programming: Python, R, SQL, Java, C#, C/C++, PHP, HTML/CSS, JavaScript (AJAX)

Databases & BI: PostgreSQL, MySQL, Advanced Excel (Pivot Tables, Lookups, Power Query)

Web & Digital Analytics: Google Analytics 4, Google Search Console, Bing Webmaster Tools, Technical & On-Page SEO

Systems Analysis & Development: UML Modelling, PHP MVC, Role-Based Access Control (RBAC), Production Deployment

Tools & Research: Git, GitHub, LaTeX, ArcGIS Pro, Technical Documentation, Microsoft 365

Relevant Coursework

Course	Relevance	Grade
Data Science & Analytics		
Computational Statistics and Probability	Estimation, hypothesis testing and regression	A
Machine Learning	Regression, classification, clustering and model selection	A
Artificial Intelligence and Expert System	Search, logic and knowledge-based reasoning	A
Introduction to Data Science	Preprocessing, visualization, classification and evaluation	Ongoing
Information Systems & Data Management		
Introduction to Database	SQL, ER modelling, normalization and complex queries	A+
Object Oriented Analysis and Design	System analysis and UML-based requirements modelling	A+
Human Computer Interaction	User-centred interface design and usability evaluation	Ongoing

Course	Relevance	Grade
Business & Management		
Engineering Management	Forecasting, decision trees, linear programming, PERT/CPM	A
Principles of Accounting	Financial statements and business transaction analysis	A+
Principles of Economics	Demand, cost and market analysis for decisions	A+
Business Communication	Professional reports, presentations and stakeholder communication	A+
Research		
Research Methodology	Research design, ethics, validation and scientific writing	A+
Project & Thesis	Independent capstone research project	A+

Research Publications and Manuscripts

1. **A Unified IoT Platform for Device-Level Power Monitoring and Automated Billing using a Real-Time Web Dashboard**
   2026 IEEE International Conference on Optics, Machine Learning and Emerging Technology (OMLET)
   Status: Accepted and Presented — IEEE Xplore Publication Pending

2. **Leakage-Aware Evaluation of Optimized and Interpretable Learning Models for Hypertension Screening Without Blood-Pressure Measurement**
   Submitted to the 7th International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT 2027), MIST, Dhaka, Bangladesh
   Status: Submitted

3. **Forecasting Terrorist Incidents in Pakistan: A Benchmarked Comparison of Classical and Machine Learning Models**
   Submitted to the 7th International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT 2027), MIST, Dhaka, Bangladesh
   Status: Submitted

4. **Severe Air Transport Disasters Worldwide, 2000–2025: Mortality Trends, High-Impact Events and Geographic Distribution**
   Submitted to Public Health (Elsevier)
   Authors: José Antonio Cernuda Martínez, Golam Rasul, Mahinoor Islam Tonmoy, Pedro Arcos Gonzalez, Akib Osmani
   Status: Submitted

Experience

Technical Project Lead (Academic) [August 2023 – Present]
American International University-Bangladesh

- Directed 12+ end-to-end academic development projects focused on Information Systems architecture, AI/ML integrations, and data engineering.
- Managed student engineering teams through Agile software development lifecycles (SDLC), optimizing task delegation and version control via GitHub.
- Coordinated system design, technical documentation, and final deployment strategies for capstone-level machine learning and software engineering courses.

Management Systems and Data Management Assistant [June 2024 – December 2026]
KB Window Fashions Corporation

- Architected structured Google Sheets workflows to digitize and manage daily operational business records.

- Streamlined data entry and recordkeeping processes, significantly improving information accessibility and accuracy for the management team.

Selected Projects

Credit Card Approval: Data Preparation & Classification Pipeline
R, Logistic Regression (`glm`), Stepwise Feature Selection, Data Preprocessing

- Built an end-to-end R pipeline in a four-member team on the AER CreditCard dataset (1,319 applicants, 12 mixed features) from Rdatasets.
- Compared listwise deletion with mean/mode imputation for 5% missing values, cleaned injected numerical and categorical noise, caught 8 invalid records (one created by imputation), capped IQR outliers, and applied Min-Max, Z-score and `log1p` scaling (income skewness 1.98 to 0.77) with descriptive statistics and diagnostic plots.
- Detected target leakage from post-approval spending variables (one spending rule predicted 99% of test outcomes) and excluded them; AIC-based stepwise logistic regression kept 6 of 9 features, reaching 84.85% accuracy on an 80/20 split.

DroneOps: Aerial Survey & Fleet Management System
PHP, MySQL, JavaScript (AJAX), HTML, CSS

- Led a four-member team building a drone-operations web platform (flight requests, maintenance, dispatch, safety compliance) using a branch-per-member Git workflow with pull requests and tagged releases over six staged deliveries.
- Architected a plain-PHP MVC structure with RBAC for five user roles, secured by sessions, hashed "Remember me" tokens, CSRF tokens and password hashing.
- Engineered flight scheduling with server-side conflict detection for overlapping bookings and grounded drones on a relational MySQL schema (PDO prepared statements, transactions), plus AJAX `fetch()`/JSON endpoints for live availability checks, approvals and status updates without page reloads.

Achievements & Certifications

- Received the Dean's List Honor Award three times for outstanding academic performance at American International University-Bangladesh (AIUB):
  - Fall 2024–2025: GPA 4.00/4.00
  - Spring 2025–2026: GPA 3.95/4.00
  - Fall 2025–2026: GPA 3.95/4.00
- Earned the Google Data Analytics Professional Certificate and Kaggle certificates in Introduction to Python and Pandas.
- Participated in IEEE SPAVE 7.0, engaging with emerging technologies and professional networking opportunities.