# Ayesha Siddiq

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## EDUCATION

**Northeastern University, Boston, MA** **Expected Dec 2026**
Master of Science in Information Systems GPA 3.6/4
**Coursework:** Application Engineering and Development, Data Management and Database Design, Web Design/User Experience Engineering, Advanced Business Process Engineering, Data Science Using R, Program Structure & Algorithms.

**Muffakham Jah College of Engineering and Technology, HYD** **Dec 2020 – June 2024**
Bachelor in Engineering – Computer Science [Artificial Intelligence and Data Science] GPA: 9.05
**Coursework:** Data Analytics, Machine Learning, Software Engineering, Data Mining, Operating Systems Time Series Analysis, Data Structures and Algorithms.

## TECHNICAL SKILLS

**System Administration:** Windows, Linux, Active Directory, User and Group Management, System Backups.
**Statistical and analytical tools**: R, Python, Microsoft Excel, Google Analytics.
**Database Management:** SQL, Database Design, Performance Tuning, Backup and Restore.
**Web Development:** HTML5, CSS3, JavaScript, Angular JS, React JS.
**Soft Skills:** Excellent Communication Skills, Project Management, and Collaboration.

## ACADEMIC PROJECTS

### Statistical Analysis of Factors Influencing GitHub Repository Popularity

**Tools Used: R, RStudio, dplyr, ggplot2, ANOVA, Regression Modeling, Kaggle GitHub Repository Dataset**

- Conducted a comprehensive statistical study to determine how quantitative metrics, programming language, and repository age influence GitHub repository popularity.
- Performed statistical analysis on 10,000+ GitHub repositories using multiple linear regression, one-way ANOVA, and two-way ANOVA.
- Engineered regression models that improved explanatory power ($R^2$ increased from 0.33 to 0.35) by incorporating language and age-group interactions.
- Identified significant language- and age-driven trends impacting repository visibility and developer engagement.
- Ensured analytical rigor through diagnostic testing, heteroskedasticity correction, and robust standard error validation.

**Library Management System**
**Tools Used: Oracle Database, SQL**

- Developed a robust **Oracle Database** solution to automate book inventory, member management, and borrowing/returning transactions, reducing manual errors by 50% and improving operational efficiency.
- Implemented roles with specific permissions, ensuring secure and controlled access to library resources and data.

- Created SQL views and reports to provide real-time insights into borrowing trends, overdue books, and fine collections, enabling data-driven decision-making.
- Designed procedures, functions, and triggers to enforce business rules, validate transactions, and handle errors, ensuring data accuracy and system reliability.

**Hospital Management System**

**Tools Used: NetBeans, Java, MySQL**

- Designed and developed a centralised Hospital Management System (HMS) to streamline hospital operations, including patient care, staff coordination, and administrative workflows.
- Implemented a modular and scalable architecture to manage patient records, appointments, and billing, reducing operational bottlenecks by 30%.
- Integrated a secure database system using MySQL to ensure efficient data storage, retrieval, and privacy compliance.
- Developed user-friendly interfaces for patients, staff, and administrators, improving accessibility to medical information and reducing waiting times by 25%.

## RESEARCH PROJECTS

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**Med Ease: ML-Driven Symptom Analysis with an Expert Doctor and Drug Recommendation System**

- Integrated the Machine Learning models into the platform to provide seamless user experiences
- Implemented features for symptom input and displaying diagnostic predictions and drug recommendations
- Ensuring the system is user-friendly, responsive and accessible on various devices
- Successfully submitted a research paper to the International Journal of Innovative Research in Information Technology

**Cab Fare Prediction based on Time-Series with Machine Learning Techniques**

- The System is designed to allow individuals to estimate taxi trip fares by using various dynamic conditions such as weather, cab availability, cab size and the distance between locations
- Successfully submitted a research paper to the International Journal of Innovative Research in Information Technology

## PROFESSIONAL EXPERIENCE

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**Headway Data Systems, Hyderabad, India** **June 2023 - Feb 2024**

Full Stack Developer

- Built **the Sri Vastu website** using **React.js** and **Node.js**, boosting user engagement by 30%.
- Developed a **wedding app** with **MongoDB** and **REST APIs**, streamlining event planning.
- Optimised website performance, reducing load time by 40%.
- Integrated payment gateways into the wedding app, boosting revenue by 25% through seamless transactions.

**Headway Data Systems, Hyderabad, India** **May 2023-June 2023**

Front End Web Developer Intern

- Learnt and applied **HTML**, **CSS**, and **JavaScript** to build responsive and user-friendly web interfaces for the **Sri Vastu website**.
- Assisted in designing and implementing front-end components for a **wedding planning app**, ensuring a seamless user experience across devices.
- Gained hands-on experience with **React.js** to create dynamic and interactive web pages, improving website engagement by 20%.