



Bachelor of Science in
**Artificial Intelligence
and Data Science**

Pioneering the Future of Technology in Bangladesh



Unique Opportunity:

Green University of Bangladesh is proud to offer the first-ever Bachelor of Science in Artificial Intelligence and Data Science program in Bangladesh, providing cutting-edge education and training in these transformative fields.

Welcome to the Department of Artificial Intelligence and Data Science

Green University of Bangladesh (GUB) is proud to introduce the Bachelor of Science in Artificial Intelligence and Data Science—a unique and pioneering academic program in Bangladesh. This program is offered under the Faculty of Science and Engineering by the Department of Artificial Intelligence and Data Science. Our mission is to equip students with the skills and knowledge necessary to lead in the rapidly evolving fields of AI and Data Science.

Program Description and Graduation Requirements

The Bachelor of Science in Artificial Intelligence and Data Science is a comprehensive 4-year undergraduate program designed to provide students with a deep understanding of the principles, techniques, and applications of Artificial Intelligence and Data Science. With a curriculum spanning 138.0 credits, this program combines foundational courses in computer science, mathematics, and statistics with specialized AI and Data Science courses.

- **Duration:** 4 Years
- **Total Credits:** 138.0 credits
- **Minimum CGPA for Graduation:** 2.5
- **Maximum Completion Time:** 8 Years

Why Study Bachelor of Science in Artificial Intelligence and Data Science?

In today's rapidly evolving tech landscape, Artificial Intelligence (AI) and Data Science are driving innovation across every industry. By studying the Bachelor of Science in Artificial Intelligence and Data Science at Green University of Bangladesh, you'll gain the skills and knowledge needed to thrive in this high-demand field.



Here's why you should consider this program:

- **Cutting-Edge Curriculum:** Our program blends foundational knowledge in computer science, mathematics, and statistics with advanced topics in AI and Data Science, ensuring you are well-equipped for the challenges of tomorrow.
 - **High Demand for Skills:** The tech industry is experiencing an unprecedented demand for AI and Data Science professionals. Graduates can pursue diverse career opportunities in technology, healthcare, finance, e-commerce, and more.
 - **Innovative Learning Environment:** GUB provides hands-on experience through state-of-the-art labs, real-world projects, and internships, giving you a competitive edge in the job market.
 - **First in Bangladesh:** As the first university in Bangladesh to offer this program, GUB is at the forefront of AI and Data Science education, making you part of a pioneering academic community.
 - **Future-Proof Career:** AI and Data Science are key to the future of innovation. By mastering these disciplines, you'll be prepared to lead and make impactful contributions in a rapidly evolving world.
- Invest in your future with a degree that opens doors to endless possibilities in the tech industry.

Key Courses

The curriculum includes diverse courses to provide students with a broad and deep understanding of AI, data science, and programming:

- **Introduction to Data Science** – Covers data lifecycle stages, data collection, cleaning, analysis, and visualization.
- **Artificial Intelligence** – Introduces AI principles, intelligent agents, problem-solving, and ethical considerations.
- **Machine Learning** – Teaches supervised and unsupervised learning, deep learning models, and neural networks.
- **Big Data Analytics** – Focuses on managing and analyzing large datasets using distributed computing tools like Hadoop and Spark.
- **Natural Language Processing (NLP)** – Covers techniques for processing human language data, from tokenization to language generation.
- **Digital Image Processing** – Techniques for analyzing and manipulating images, used in fields like medical imaging and facial recognition.
- **Cloud and Data Center Management** – Teaches students the design and optimization of virtualized infrastructure for scalable computing.
- **Deep Neural Networks** – In-depth study of neural networks, covering architectures like CNNs and RNNs.
- **Database Systems** – Foundational course on relational databases and SQL, essential for data management.
- **Data Analysis and Visualization** – Teaches data cleaning, exploration, and visualization, using libraries such as Matplotlib and Seaborn.
- **Introduction to Python Programming** – Provides a foundational understanding of Python, widely used in AI and data science.
- **R for Data Science** – Covers data manipulation, statistical analysis, and visualization in R, another key language in data science.
- **Bayesian Data Analysis** – Explores Bayesian statistical methods used for complex data analysis in AI.
- **Time Series Analysis** – Techniques for analyzing time-based data, such as stock prices and weather patterns.
- **Optimization Techniques** – Covers methods for enhancing the efficiency of AI algorithms and models.
- **Large Foundation Models** – Study of pre-trained models in AI, such as GPT, for tasks like language translation and image recognition.
- **Reinforcement Learning** – Focus on Q-learning, policy gradients, and applications in robotics and game AI.
- **Autonomous Robotics** – Teaches AI techniques for building and managing intelligent robotic systems.
- **Bioinformatics** – Application of AI in analyzing biological data, relevant in healthcare and genetics.
- **Ethics for AI and Data Science** – Discusses ethical considerations, such as bias and transparency in AI.
- **Capstone Project/Internship** – A final year project applying AI and data science techniques to real-world challenges.





Laboratories for AI and Data Science

Green University provides dedicated laboratories to support hands-on learning in AI and Data Science. Each lab offers specialized resources and software to help students gain practical experience:

1. AI and Machine Learning Lab

Equipped with tools like TensorFlow and PyTorch, this lab allows students to build, train, and evaluate AI models. Students work on projects like recommendation systems and predictive models, exploring various algorithms and AI architectures.

2. Data Science and Visualization Lab

This lab is designed for data exploration, statistical analysis, and visualization. Using Python libraries and tools, students clean and analyze datasets, draw insights, and create compelling visualizations to communicate findings.

3. Natural Language Processing (NLP) Lab

Supports projects focused on text and language data, including tasks such as sentiment analysis, text classification, and machine translation. Students work with NLP models and gain exposure to various libraries.

4. Big Data Analytics Lab

This lab provides infrastructure for processing and analyzing large datasets using Hadoop, Spark, and other big data tools. It prepares students for real-world challenges in managing and interpreting large volumes of data.

5. Digital Image Processing Lab

Equipped with software like OpenCV, this lab enables students to analyze and manipulate images. Key projects include facial recognition, medical imaging, and pattern recognition in visual data.

6. Internet Protocols and Networking Lab

Focuses on IP configuration, network protocols, and secure communication. Students practice setting up secure networks and explore network protocols crucial to reliable AI applications.

7. Capstone Project Lab

A dedicated space for students to work on their final year projects, integrating AI and data science skills to solve real-world problems. The lab provides all necessary resources for project development, including guidance from faculty and industry partners.

Unlock Your Future in AI and Data Science

As the first university in Bangladesh to offer a Bachelor of Science in Artificial Intelligence and Data Science, Green University of Bangladesh (GUB) provides a groundbreaking opportunity to be at the forefront of innovation. Graduates of this pioneering program will be well-prepared for a wide range of in-demand careers in AI and Data Science, including:

- **AI Researcher:** Innovate in AI algorithm development.
- **AI Engineer:** Designs, builds, and deploys AI systems and ML models to solve complex problems.
- **Data Scientist:** Drive business strategy through data analysis.
- **Machine Learning Engineer:** Implement machine learning models across industries.
- **AI Consultant:** Guide organizations in AI integration.
- **Data Engineer:** Design and manage scalable data pipelines and infrastructures.
- **Deep Learning Specialist:** Focus on advanced neural networks to solve complex problems.
- **Natural Language Processing (NLP) Engineer:** Develop AI systems that understand and generate human language.
- **Big Data Analyst:** Extract valuable insights from vast and complex datasets.
- **AI Product Manager:** Lead the development and implementation of AI-driven products.
- **Robotics Engineer:** Design and develop intelligent robotic systems.
- **Business Intelligence Analyst:** Transform data into actionable insights for business decision-making.
- **AI Ethicist:** Ensure the ethical implementation of AI technologies.

Industries such as technology, healthcare, finance, e-commerce, automotive, education, and more are increasingly seeking professionals with AI and data-driven decision-making skills.

Learn from Industry Leaders and Academic Experts

Our faculty members bring a wealth of knowledge and experience from both academic research and industry practice. The department prides itself on:

- **Expert Educators:** Faculty with PhDs from globally renowned institutions.
- **Industry Experience:** Instructors with hands-on experience in AI and Data Science.
- **Research Opportunities:** Engage in cutting-edge research under expert guidance.

Graduate Attributes

Graduates from this program will be well-rounded professionals with key competencies, including:

- **Technical Expertise:** Mastery of AI algorithms, machine learning models, and data manipulation.
- **Innovative Problem-Solving:** Ability to devise creative solutions to complex challenges.
- **Ethics and Responsibility:** Awareness of ethical considerations and a commitment to responsible AI use.
- **Effective Communication:** Ability to explain complex technical concepts to both technical and non-technical audiences.
- **Project Management Skills:** Strategic planning and execution of AI projects, harmonizing resources and goals.
- **Lifelong Learning:** Prepared to continuously adapt to advancements in AI and data science.





Experience a World-Class Education in a Green Campus

Green University offers a modern, eco-friendly campus with state-of-the-art facilities:

- **High-Tech Labs:** AI and Data Science labs with the latest technology.
- **Support Services:** Free transport, hostel accommodations, and comprehensive student support.
- **Vibrant Campus Life:** Participate in clubs, sports, and cultural activities.

Admission Requirements

To be eligible for the Bachelor of Science in Artificial Intelligence and Data Science program:

- **SSC and HSC or their Equivalents:** A minimum GPA of 2.5 in both SSC and HSC or equivalent exams. Candidates with a GPA of 2.00 in either SSC or HSC must have a combined total GPA of 6.00.
- **O/A Levels:** A minimum of 4 B's and 3 C's in both O Levels and A Levels.
- **Diploma Holders:** A minimum GPA of 2.5 in a Diploma in Engineering from BTEB or an equivalent institution.
- **Subject Requirements:** Students must have studied Physics, Chemistry, and Mathematics, with satisfactory scores in HSC/A-Level or an equivalent level.

Join Us at GUB

Become a part of a pioneering program at Green University of Bangladesh and take the first step toward a future in Artificial Intelligence and Data Science.

- **Scholarships Available:** Merit-based waivers and other quotas.
- **Application Process:** Visit our website or contact the admissions office for more details.

PERMANENT CAMPUS:

Purbachal American City, Kanchan,
Rupganj, Narayanganj, Bangladesh

CONTACT:

Mobile: 01324713502 - 08
Phone: +880 9614482482 (Ext: 2901)

[/greenuniversitybd](https://www.facebook.com/greenuniversitybd)
[/greenuniversitybd](https://www.instagram.com/greenuniversitybd)
[/greenvarsity](https://www.twitter.com/greenvarsity)
[/school/greenuniversity](https://www.linkedin.com/school/greenuniversity)

Green University of Bangladesh

Shaping the Future of Artificial Intelligence and Data Science in Bangladesh
www.green.edu.bd | admissions@green.edu.bd