CAREER OPPORTUNITIES

Here are some potential career and further study options for graduates of the MS AI programme:

- **Start-ups** based on tools and devices developed as part of their projects or thesis
- **Hospitals, diagnostic labs, and clinical research centres** to improve patient care
- **Regulatory authorities** that develop and enforce regulations
- **Manufacturing industry** to improve product design, manufacturing, and quality control
- **Systems biology** to study complex biological systems
- **Computational tool development** to deliver software tools for e-health solutions
- **Energy and power sector** to improve energy efficiency and reliability
- **Supply chain management** to optimise supply chains and improve inventory management
- **Database management** to improve database performance and security
- **Hardware design** to design new hardware products and enhance the performance of existing ones
- **Doctoral studies** in AI and machine learning
- **Digital sustainable agriculture** for decision support in water, soil and pest management, weather forecasting, climate change adaptation, crop yield maximisation, etc.

ADMISSION CRITERIA

Admission is purely merit-based and rests solely on the following criteria:

- Academic Record
- Performance in Admission Tests
- Online Application Submission
- Online Submission of Supporting Documents and Fee Payment
- Application Review
- Interview Performance (if shortlisted)

Note: These are the minimum criteria applicants must fulfil to be eligible to apply. Meeting these criteria does not guarantee admission to LUMS.

Scan for more information

NAWAL SHAHID

MS Artificial Intelligence Student

"With a background in Economics, transitioning to AI for my graduate studies initially posed challenges. I struggled to keep up with the courses at first, but once I shared my concerns with the instructors, they were incredibly supportive. They provided in-depth tutorial sessions to help me and other students facing similar difficulties. We were also assigned written exercises to deepen our understanding of the concepts. The faculty at LUMS is exceptionally helpful and accommodating, ensuring that every student gets the support they need."

FINANCIAL SUPPORT

- Merit scholarships
- LUMS Financial Aid (for local applicants only) aims to reduce financial barriers to higher education, nurturing an inclusive and vibrant community where academically distinguished students can realise their full potential and achieve their professional aspirations. At the graduate level, financial aid is provided in the form of an interest-free loan.

LUMS
A Not-for-Profit University

DHA, LAHORE CANTT. 54792, LAHORE, PAKISTAN
+92-42 111-11-LUMS (5867) Ext: 2177
admissions@lums.edu.pk
www.lums.edu.pk

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A Not-for-Profit University

Learning Without Borders

MS ARTIFICIAL INTELLIGENCE

MAKE YOUR IMPACT

SYED BABAR ALI SCHOOL OF SCIENCE AND ENGINEERING

SYED BABAR ALI SCHOOL OF SCIENCE AND ENGINEERING

Founded in 1985 as a not-for-profit, LUMS has pioneered innovative educational trends. The expanse of research and teaching at LUMS offers its community 'Learning Without Borders' by breaking academic, geographic, and socio-economic barriers to enhance students' academic exposure and make education accessible to all.

The Syed Babar Ali School of Science and Engineering (SBASSE) at LUMS is at the forefront of research and teaching in Pakistan. The MS programmes at SBASSE are rigorous and designed to impart specialised professional and research-oriented training to students. All SBASSE departments offer at least two options to choose from: MS-by-Coursework or MS-by-Thesis.

WHY MS ARTIFICIAL INTELLIGENCE AT LUMS?

LUMS AND SBASSE FOSTER A DYNAMIC LEARNING ENVIRONMENT

QS WORLD UNIVERSITY RANKINGS BY SUBJECT

- #401-450 Computer Science and Information Systems
- #351-400 Engineering – Electrical and Electronics
- #401-450 Engineering and Technology

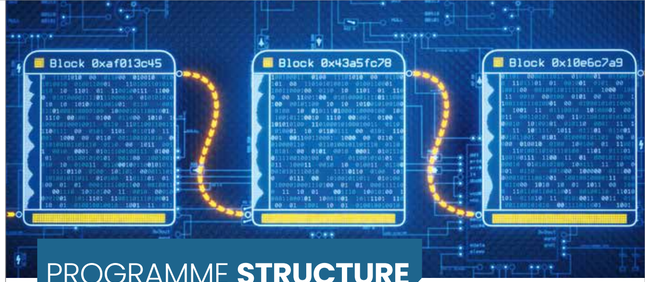
The MS Artificial Intelligence (AI) programme at LUMS has been crafted with a vision of establishing a nationally distinguished graduate programme in the field. It focuses on nurturing graduate students by imparting both theoretical knowledge and practical skills in the broad areas of Artificial Intelligence and Machine Learning. The programme aims to equip students with robust problem-solving abilities, fundamentals and domain-specific knowledge, and data handling and manipulation skills, which are applicable across diverse domains.

PROGRAMME HIGHLIGHTS

- Weekend programme
- 100% merit scholarships (tuition waiver)
- Research Assistant (RA) or Teaching Assistant (TA) opportunities
- World-class faculty
- Multidisciplinary environment
- Top-quality research

Collaborative engagement with industry and academia on real-world challenges is a cornerstone of the programme, along with an emphasis on and appreciation for the boundaries of Artificial Intelligence (AI) and Machine Learning (ML) technologies, considering the associated societal and ethical complexities. The programme's learning outcomes encompass various facets, including:

- Mathematical and statistical foundations
- Computational underpinnings
- Data management, visualisation, and modelling
- Domain-specific considerations
- Ethical guidelines for AI/ML
- Data model deployment strategies
- Effective communication and teamwork



PROGRAMME STRUCTURE

The MS Artificial Intelligence programme requires a total of 30 credit hours for completion. 3 core courses are compulsory for everyone, and the number of elective courses required to complete the degree depends on the following options:

THESIS OPTION

In the thesis option, students will take 5 elective courses (3 credit hours each), and complete an MS thesis worth 6 credit hours. The MS thesis is divided into two components, MS Thesis I and II, worth 3 credit hours each.

CAPSTONE PROJECT OPTION

In the capstone project option, students will take 6 elective courses (3 credit hours each), and undertake a capstone project worth 3 credit hours.

COURSEWORK OPTION

In the coursework option, students will take 7 elective courses (3 credit hours each).

This programme offers students the flexibility to build on its required core courses with electives from an exhaustive list. This allows students to tailor their degree experience to reflect their interests, strengths, and career goals. Our faculty members are deeply involved in various AI domains, and we have introduced distinct AI specialisations to align with their expertise. These specialisations feature elective courses meticulously crafted for the unique interests of students in AI in each field, including:

- Hardware
- Sustainability
- Health and Biomedical Imaging
- Energy and Power Systems
- Software systems, DevOps, and MLOps
- Robotics
- Society
- Natural Language and Speech
- Operations/Supply Chain Management