

MS & PhD
COMPUTER SCIENCE



EMPOWERING EVERY JOURNEY

Syed Babar Ali School of Science and Engineering



SYED BABAR ALI SCHOOL OF SCIENCE AND ENGINEERING (SBASSE)

LUMS and SBASSE Fostering a Dynamic Learning Environment

Founded in 1985 as a not-for-profit, LUMS believes in making quality education accessible while breaking academic, geographic, and socio-economic barriers to enhance students' academic exposure.

SBASSE at LUMS is advancing innovative teaching and impactful research in science and technology. The MS programmes offer rigorous, professional, and research-focused training, with two pathways: MS-by-Coursework or MS-by-Thesis. The PhD programmes prepare students for independent, high-quality research. Key milestones include Coursework, Comprehensive (Qualifying) Exams, Thesis Proposal Defense, at least one article in a peer-reviewed journal, and final PhD Thesis Defense.

WHY MS & PHD COMPUTER SCIENCE AT LUMS?

DEPARTMENT RANKINGS FROM CSRANKINGS.COM*

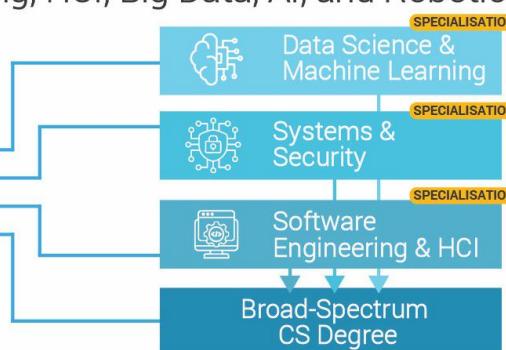
- Ranked 1st in Pakistan across all categories
- Ranked 6th in Asia in the Computer Systems Category
- Ranked 53rd in the world in the Computer Science Category

*This is the widely-used standard for CS department rankings across global universities

The Department of Computer Science comprises faculty with PhDs from Berkeley, Carnegie Mellon, and Stanford, guiding students to stay ahead in evolving tech. Learners gain hands-on expertise in Computer Vision, Data Mining, Networks, Security, Privacy, Distributed Systems, Software Engineering, HCI, Big Data, AI, and Robotics.

MS COMPUTER SCIENCE

Where can the pathway take you?



PROGRAMME STRUCTURE

MATHEMATICS AND PROGRAMMING

DEPTH
CORE
(1+1)

- Algorithms
- Applied Probability

BREATH CORE
(1+1+1)

- Big Data Analytics
- Machine Learning
- Computer Vision Fundamentals
- Intelligent Systems
- Data Learning
- Data Mining

ELECTIVES*
(1+1+1)

- Foundations of Gen AI
- NLP
- Topic in LLMs

DATA SCIENCE & MACHINE LEARNING

SYSTEMS & SECURITY

SOFTWARE ENGINEERING & HCI

- Networks
- Distributed Systems
- IoT
- Multiagent Systems
- Computer Architecture

- Software Engineering
- Topics in Interactive Computing

- Digital Image Processing

*One course can be taken from other SBASSE Departments or Schools

- All students must complete 15 credit hours of core courses (Breadth + Depth)
- In addition to the 15 hours of core courses, students opting for MS-by-Coursework must take 15 hours of electives. Students opting for MS-by-Thesis must take 6 credit hours of MS Thesis and 9 credit hours of electives.

PROMINENT PLACEMENTS

Our graduates ascend to prominent roles, pursuing academics at world-renowned institutions, securing fully funded PhD positions, and driving innovation in leading industries.



HARVARD
UNIVERSITY



UNIVERSITY OF
CAMBRIDGE

Carnegie
Mellon
University



Massachusetts
Institute of
Technology



Stanford
University

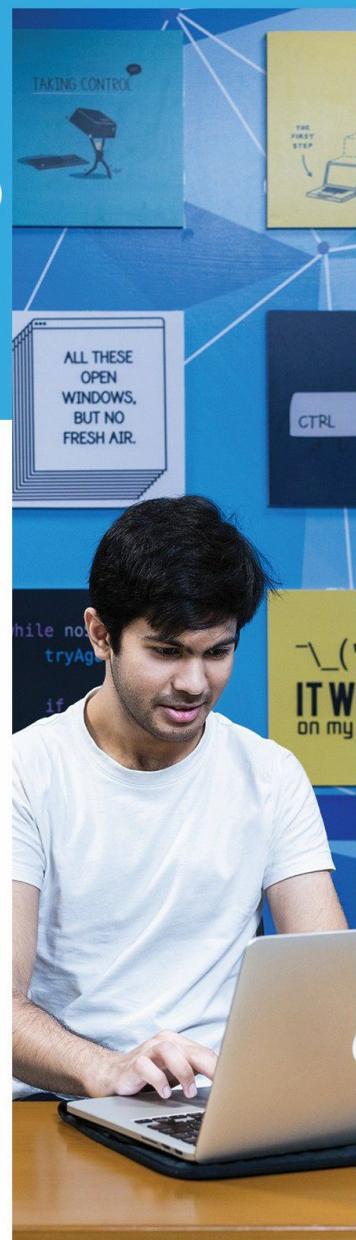


Google



systems

Microsoft



CAREER PROSPECTS

Our graduates pursue careers as:

- **Software Engineers** in leading tech firms
- **Data Scientists and Machine Learning Specialists**
- **Cybersecurity Analysts and Systems Security Experts**
- **Human-Computer Interaction (HCI) Specialists**
- **Robotics and AI Engineers**
- **Big Data Engineers and Cloud Computing Specialists**
- **Network Architects and Distributed Systems Developers**
- **Software Architects and Product Managers**
- **IT Consultants and Technology Strategists**
- **Academic Researchers and Professors**
- **Innovation Leads** in start-ups and entrepreneurial ventures
- **Research Scientists** in industry labs (AI, Data Science, Systems)
- **Digital Forensics Experts and Privacy Specialists**
- **Professionals** in telecommunications and advanced computing research



“When I joined LUMS, I had no clear direction, but the holistic foundation year let me explore every branch of science, and drew me toward Computer Science. The faculty don't just teach for grades, but instill a deep understanding of the science behind computing. The curriculum was cutting-edge, with a strong emphasis on collaboration. The alumni network is invested in each other's success, creating opportunities in ways that extend far beyond the classroom.

MUHAMMAD ABDULLAH
MS Computer Science '24
Data & AI Engineer
Cascade Debt

ADMISSION CRITERIA AND FINANCIAL SUPPORT

ADMISSION IS PURELY MERIT-BASED.

Scan the code to explore eligibility, deadlines, how to apply to the MS Computer Science programme and find out how LUMS can support your academic journey.



PhD Computer Science is a fully funded programme. Scan the code to find out details on how to apply.



PHD COMPUTER SCIENCE ADMISSION CRITERIA FOR FOREIGN NATIONALS

Foreign nationals must obtain a visa and a no-objection certificate to study at LUMS, with support provided by the university. Applicants from developing countries may also apply via the TWAS-UNESCO portal: <https://rb.gy/j83y7v>. Scan to find out more.



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