

2027 & 2028 Graduates

Data Science and Artificial Intelligence (DSAI)

Program Details (BTech/MTech)

IIIT-B, established in 1999, offers a range of programs including B.Tech, M.Tech, MS (by Research) and Ph.D. in Computer Science, Electronics and Data Science and Artificial Intelligence. The DSAI department is home to some of the best academics in the fields of Big data systems and management (including retrieval, analysis and visualisation), Multimodal AI (including vision, graphics, language and speech) and DSAI algorithms (including reinforcement learning, self-supervised and few-shot learning).

Among the many fields in which our faculty has applied their research are smart cities, health, education, and geospatial applications. The faculty work on both applied and theoretical problems, and have forged several industrial collaborations and are working on projects from government agencies. Our B.Tech. program in DSAI combines strong theoretical foundations with system-level skills, preparing students for advanced master's programs and industry roles. The M.Tech program builds on this with deeper, research-driven training. Our MS and Ph.D. scholars are also in high demand, supported by advanced coursework, solid publications, and practical expertise.

Learn more about IIIT-BANGALORE [↗](#)

Specialization & Courses

AI Theory (AIT)

- Few-shot Learning
- Reinforcement Learning
- Self-supervised Learning
- Multi-objective Machine Learning
- Multi-agent Systems
- Artificial General Intelligence (AGI)

Data & Systems (DAS)

Data-centric

- Data Visualization
- Data Modeling
- Data Mining

System-centric

- NoSQL Systems
- Streaming Data Systems
- Geographic Information Systems (GIS)
- MLOps

AI in Data Domains (AID)

- Natural Language Processing
- Visual Recognition
- Advances in NLP
- GenAI for Vision
- 3D Vision
- Spatio-temporal Data Analytics I & II

AI in Application Domains (AIX)

- Medical Image Analysis
- Spatial Computing
- Recommendation Systems
- Data Science for BFSI

Research & Labs

Multimodal Perception Lab [↗](#)

- Multimodal Language Translation and Speech Technology
- Coordinated Multimodal Sensing
- Multimodal Analysis and Synthesis
- Autism Detection with Visual Analytics
- Multilingual Speech and Audio Understanding

Natural Language Processing, Multimodal AI Lab



- IndicNLP Models and Tooling
- Vision & Language - Scene Graph Generation, Hallucination Detection
- Interpretability, Trustworthy & Safety of LLMs - Ethical, Cultural Alignment
- NLP for Social Good (mental health, education-NLP, legal analytics)
- Dialogue Systems, Affect Analysis, Multimodal Learning

Computer Vision Lab



- Task Guided Navigation in 3D Indoor Scenes
- 3D Scene Memory Management with Navigation
- Language Driven Robotic Grasping and Manipulation of Objects
- Generative Modelling to address Vision Data and Label Scarcity

Scalable Data Science & AI (ScaDS.ai) Lab



- Reasoning in Large Language Models
- Neuro-Symbolic Representation and Structured Reasoning
- Ontology-Guided AI Systems
- Streaming Data Processing Systems
- Scalable System Architectures for Big Data and AI Pipelines
- Alignment, Training, and Evaluation of AI Systems (preference tuning, intermediate supervision, structured multi-loss objectives, benchmarking reasoning quality, bias, and robustness)
- AI Ethics, Explainability, and Policy

Spatial Computing Lab



- UAV Data Analysis for Agriculture, Forestry & Remote Monitoring
- 2D/3D Spatial Visualization for Sustainable Development (SDG Mapping)
- Traffic Modelling and Simulation at Scale
- Spatial Computing for Urban Mobility and Smart Cities
- VR/AR-based City & Infrastructure Simulations

Web Science Lab



- IUDX Data Trusts
- ScenariosDB (Large-scale Urban Data Repository)
- Data Governance & Fairness in Digital Ecosystems
- Analytics Platforms for Public Policy
- Responsible Autonomy (cross-lab AI ethics project)

Machine Intelligence & Robotics (MINRO) Centre



- Multilingual Speech & Cognitive Processing
- AI Social Psychology Models
- Generative AI for Vision and Speech
- Assistive Technologies for Human-Centred AI
- VR-based Compassion Training (Healthcare AI)

Graphics Visualization Computing Lab



- 2D/3D Graphics for Digital Twins
- Data Visualization and Analytics
- AI for Geospatial Data Analysis
- AI for Survey Data Analysis
- Visual Intelligence

Stochastic Control Lab



- Reinforcement Learning for Urban Systems
- Multi-objective Optimization for AI Safety
- Dynamic Modeling for Traffic and Infrastructure
- Probabilistic Models for Energy and Sustainability

Speech Lab



- Automatic speech recognition (ASR)
- Multi-lingual ASR for Indic languages
- Low-resource ASR
- Few-shot, Self-supervised, Cross-domain learning
- Associative memory formulations
- Speech corpus synthesis and data augmentation

Topological Data Analysis, Topological Machine Learning Lab

- Topological Machine Learning for High-Dimensional Data
- Structure-Preserving Learning for Scientific Data
- TDA for Healthcare Signals
- TDA for Climate & Sustainability Models

Optimization Centric & Energy Aware AI Lab (OCE-AI Lab)

- Energy for AI and vice-versa
- Renewable Energy
- Data Centers
- Derivative Free Optimization
- Multi-objective Optimization
- Hyperparameter tuning in ML.

Vision and Medical Imaging Lab

- Detection of Oral Cancer and OPMD from Intra-oral Pathology and Neuro-Histopathology
- Automated Report Generation from Medical Images
- Navigated Learning for STEM Education
- Video Analytics

Publications

- IEEE CVPR: Conference on Computer Vision and Pattern Recognition
- EMNLP: Conference on Empirical Methods in Natural Language Processing
- WACV: IEEE Workshop on Applications of Computer Vision
- ICDAR: International Conference on Document Analysis and Recognition
- ICPR: International Conference on Pattern Recognition
- IJCAI: International Joint Conference on Artificial Intelligence
- ICONIP: International Conference on Neural Information Processing
- SIGIR: International ACM SIGIR Conference on Research and Development in Information Retrieval
- AAMAS: International Joint Conference on Autonomous Agents and Multiagents Systems
- ICTAI: IEEE International Conference on Tools with Artificial Intelligence
- EDUNINE: IEEE World Engineering Education Conference
- WCISVR: International Conference on Virtual Rehabilitation

Internship Period for Graduating Batches

2027 Graduates (M.Tech)		2028 Graduates (B.Tech and M.Tech)
Summer (2 months) 15 May 2026 to 15 July 2026	6 months 15 Dec 2026 to 15 June 2027	Summer (2 months) 15 May 2027 to 15 July 2027

Top Recruiters



Higher Education and Research Universities



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