Its main goals are:

+ To research in Computer Science focusing on technological areas whose knowledge and development are meaningful for our country.

+ To contribute to the training, development and specialization of human resources in Computer Science.

+ To develop projects that generate concrete and meaningful knowledge transfers of technology from the University to the society.
24 Senior researchers.

23 Junior researchers/Doctoral students/Postgraduate thesis students.

10 Undergraduate students/Thesis students.

3 Support staff members

21 Senior researchers from other Universities participate in the I+D+I projects of the Institute.
There are 35 University Professors.  
27 of them have a Postgraduate degree.  
13 of them have Ph.D from UNLP and overseas universities.

There are 8 researchers that belong to National Scientific Organizations (CONICET, CIC)

16 members are Ph.D students in Computer Science.

This staff constitutes one of the most relevant IT Research Institutes in Argentina.
Research Projects

- Intelligent Systems. Applications in Pattern Recognition, Data Mining and Big Data

Software Engineering for hybrid scenarios.

Digital Governance. Process improvement.

Methodologies and tools for the appropriation of digital technologies in hybrid educational scenarios.


Multiprocessor Architectures in High Performance Computing.


Processing for Real Time / Robotic problems.

Models and computational methods. Signal processing and pattern recognition.

Intelligent Systems. Applications in Pattern Recognition, Data Mining and Big Data

Design and implementation of predictive and descriptive models.

Text Mining: characterization and categorization of documents.

Techniques for mining large volumes of data.

Machine learning applied to pattern recognition.

July 2018

Multiprocessor Architectures in High Performance Computing.


Processing for Real Time / Robotics problems

Models and computational methods. Signal processing and pattern recognition.

- Characterization of multiprocessor architectures for HPC, analyzing techniques for code development.
- Multicore, many-core. GPU, FPGA, MIC, low cost processors (e.g. Raspberry Pi). Hybrid architectures.
- Scheduling for asymmetric processors.
- Power-performance analysis.
- Fault tolerance.
- Cloud robotics.

Research Projects

July 2018

- Parallelization of multiprocessor solutions.
- Languages and techniques for parallel computing. Programming Cost of developing the solutions.
- Evaluation Metrics (performance, energy efficiency) on different platforms.
- Scientific applications, searches, simulations, bioinformatics, big data.
- Environments for teaching parallel computing.

Multiprocessor Architectures in High Performance Computing.


Processing for Real Time / Robotics problems

Models and computational methods. Signal processing and pattern recognition.

Research Projects

- Software for real-time systems.
- Real-time operating systems.
- Embedded systems. Microcontrollers Sensors.
- Robotics - IoT.

- Pattern Recognition.
- Supervised and unsupervised classification.
- Image Processing.
- Positioning, navigation and location systems.

Multiprocessor Architectures in High Performance Computing.


Processing for Real Time / Robotics problems

Models and computational methods. Signal processing and pattern recognition.

July 2018

- Software Engineering for hybrid scenarios.
- Digital Governance. Process improvement.
- Methodologies and tools for the appropriation of digital technologies in hybrid educational scenarios.

- Software Engineering to attend the development of systems on different environments.
- Systems for different devices and multi-devices.
- Ubiquitous systems.
- Web systems.
Methodologies, Techniques and Tools of Software Engineering in Hybrid Scenarios.
Process improvement.

- Information and knowledge society.
- Storage and processing of information.
- Digital city.
- Digital governance.
- Public services.
- Quality.

- Design, development, configurations and practices in digital environments (3D virtual environments, simulated environments and laboratories, social networks).
- Design, production and evaluation of digital educational materials.
- Study of learning objects, frameworks for the design and development of them.
- Tools and methodologies for collaborative work mediated by ICTs (self-regulation and metacognitive abilities).
- Paradigms of person-computer interaction in educational scenarios (augmented reality, tangible interaction, virtual reality).
- Serious games as educational activities.
Intelligent Systems. Applications in Pattern Recognition, Data Mining and Big Data

Design and implementation of predictive and descriptive models.

Text Mining. Characterization and categorization of documents.

Techniques for mining large volumes of data.

Machine learning applied to pattern recognition.

- Design and implementation of probabilistic clustering models.
- Adaptation of particle clusters for the extraction of classification rules.
- Processing of time series.
- Recommendation systems based on structured and unstructured information.
- Neural networks and optimization techniques.
- Convolutional neuronal networks. Deep learning
Research Projects

Intelligent Systems.
Applications in Pattern Recognition, Data Mining and Big Data

- Structured and unstructured methods of document representation.
- Processing of natural language.
- Sentimental analysis and opinion mining.
- Automatic summary of documents.
- Extraction of causal sentences.

- Design and implementation of predictive and descriptive models.
- Text Mining. Characterization of documents.
- Techniques for mining large volumes of data.
- Machine learning applied to pattern recognition.
Research Projects

Intelligent Systems.
Applications in Pattern Recognition, Data Mining and Big Data

- Algorithms for MapReduce and Spark frameworks.
- Treatment of data streams.
- Dynamic clustering.
- Solutions for imbalanced classification problems.

Design and implementation of predictive and descriptive models.

Text Mining. Characterization and categorization of documents.

Techniques for mining large volumes of data.

Machine learning applied to pattern recognition.

July 2018
Intelligent Systems.
Applications in Pattern Recognition, Data Mining and Big Data

- Computer vision.
- Object detection and classification in video.
- Convolutional neuronal networks.
- Representation and detection of dynamic gestures.
- Sign Language Recognition.
- Pedestrian detection.
- Face recognition.

Design and implementation of predictive and descriptive models.

Text Mining. Characterization and categorization of documents.

Techniques for mining large volumes of data.

Machine learning applied to pattern recognition.

July 2018
The School of Computer Science offers 11 Postgraduate degrees: 1 Doctorate, 4 Masters and 6 Specializations, 7 of which are supervised by researchers of III-LIDI:

- Doctorate in Computer Science
- Master in Application of Computer Technology in Education
- Master in High Performance Computing
- Master in Data Networks
- Master in Software Engineering
- Specialization in Data Intelligence oriented to Big Data
- Specialization in Application of Computer Technology in Education
- Specialization in Networking and Security
- Specialization in Computer Graphics, Images and Computer Vision
- Specialization in High Performance Computing and Grid Technology
- Specialization in Networking and Security
- Specialization in Software Engineering
Postgraduate Relationship

8
Members and external Professors from III-LIDI take part in the Degrees Academic Committee

30
Postgraduate courses have members from III-LIDI as Professors

29
Members of III-LIDI are part of the teaching staff
III-LIDI members are part of the teaching staff in the undergraduate courses of study from the School of Computer Science.

- **Licenciatura en Informática (5 years)**
  28 professors from this course of study belong to III-LIDI.

- **Licenciatura en Sistemas (5 years)**
  The Director and 28 professors from this course of study belong to III-LIDI.

- **Analista en Computación (3 years)**
  The Director and 24 professors from this course of study belong to III-LIDI.

- **Analista en TIC (3 years)**
  The Director and 24 professors from this course of study belong to III-LIDI.

- **Ingeniería en Computación (5 years)**
  The Director and 16 professors from this course of study belong to III-LIDI.
III-LIDI establishes agreements on technology transfer with private companies and the public sector for the analysis, design and implementation of software solutions.

One of its main goals is to take out patents and Registered Intellectual Property for technological products.

The emphasis is on projects that generate technological (or methodological) innovation in the public sector as much as in the private sector.

III-LIDI offers training and consultory to companies and public sector.
III-LIDI is connected to companies and Government agencies.

Technology Transfer

July 2018
The III-LIDI participates in different national and international scientific events (congresses, conferences, lectures).

Since 2013, III-LIDI **annually organizes** the Conference on Cloud Computing and Big Data.
There are Development and Innovation Projects that are carried out by **Teams of Students** coordinated by Professors/Researchers from **III-LIDI**.

The resulting products from the Projects are presented each year at the **Science and Technology Exhibition** from the School of Computer Science.
**III-LIDI** is approximately **500 m²** long.

It has **Equipments** for the **different** research and development topics.

There are available **Equipments** due to **national and international** agreements.

It is **member of the SNCAD** (National High-Performance Computing System)