



Department  
of Excellence  
2023 - 2027

**LEMbeDS**

Economics, Management and  
Law in the era of Data Science



INTERDISCIPLINARY  
CENTER

Sant'Anna  
School of Advanced Studies - Pisa

January 21<sup>st</sup> 2026

H. 9:30

Aula 3 - Main Campus  
Scuola Superiore Sant'Anna  
Piazza Martiri della Libertà, 33  
Pisa

Workshop

# A<sup>3</sup>Lab Inaugural Workshop: Algorithms, AI & Society

## PROGRAMME

**Paolo Ferragina**, Welcome address and introduction to the Workshop

### SESSION I: COMPRESSED STORAGE AND INDEXING OF BIG DATA

Lossless-Compressed Key-Value Store for the Software Heritage Archive,

**Francesco Tosoni (SSSA)**

Compressed Index, String Matching, and Similarity Search, **Sung-Hwan Kim (SSSA)**

Design of a Code-To-Code Search Engine for the Software Heritage Archive,

**Leonardo Venuta (SSSA)**

Learned and Compressed Data Structures for Range Queries, **Filippo Lari (UNIFI)**

On the Compression and Indexing of Time Series, **Michelangelo Pucci (ETHZ)**

### SESSION II: LEARNING-AUGMENTED & PRIVACY-PRESERVING ALGORITHMS

Smarter Than Worst-Case: Learning-Augmented Algorithms, **Mattia Odorisio (UNIFI)**

Oblivious RAM: Privacy Beyond Data Encryption, **Mariagiovanna Rotundo (UNIFI)**

### SESSION III: GENERATIVE AI & LARGE LANGUAGE MODELS

Lossless Compression with LLMs, **Angelo Nardone (UNIFI)**

From Tree to LLM Compression, **Gabriel Alfredo Carmona Tabja (UNIFI)**

A Compressed Graph Database with Applications to Graph RAGs and AI Agents,

**Lorenzo Bellomo (SADAS srl)**

### SESSION IV: APPLICATIONS IN ECONOMICS, HEALTHCARE, LAW & SOCIETY

Leveraging LLMs for Information Extraction and Guideline Checking in Healthcare,

**Andrea Alessandrelli (UNIFI)**

LLMs for Security Monitoring in Healthcare, **Matilde Contestabile (SSSA)**

Matching Patent Technologies to Products via Generative AI, **Giulio Lanza (SSSA)**

A Machine Learning Approach for Understanding Healthcare Waiting Lists,

**Edoardo Marani (SSSA)**



## Contact

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More info

