Andrea Piras

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Education

University of Illinois Chicago Jan 2025 – Present
P.h.D in Computer Science *Chicago, IL*
Current Research Area: Causal Inference

University of Illinois Chicago Feb 2023 – Dec 2024
M.S. in Computer Science *Chicago, IL*
GPA: 4.0

Relevant Coursework: Big Data Mining; Machine Learning; High Performance Processors and Systems; Causal Inference and Learning; Computer Security; Natural Language Processing

Politecnico di Milano Sep 2022 – Present
M.S. in Computer Science and Engineering *Milan, Italy*
GPA: 3.82

Relevant Coursework: Data Mining; Information Systems; Model and Data Analysis; Software Engineering 2

Politecnico di Milano Sep 2019 – Sep 2022
B.S. in Engineering of Computing Systems *Milan, Italy*
Final Mark: 110/110, GPA: 3.76

Relevant Coursework: Algorithms and Informatics Principles; Computer Architectures and Operation Systems; Software Engineering; Databases; Data Logic Design; Bioinformatics; Information Systems

Experience

Teaching Assistant Jan 2025 – May 2025
University of Illinois Chicago

- Teaching Assistant for Introduction to Data Science Course (CS418).

Graduate Hourly Assistant Jan 2024 – Dec 2025
University of Illinois Chicago

- Developing an algorithm to perform causal discovery on relational data using graph representations

Visiting Researcher Aug 2023 – Present
Northeastern University - Brigham and Women's Hospital

- Master's thesis on data engineering and representation learning, focusing on applications in the biomedical domain

Research Scholar Sep 2020 – Present
NECSTLab - Politecnico di Milano

- Contributed to various projects in academic and research settings, developing problem-solving skills

Research Experience

Relational Causal Discovery with Latent Confounders
Paper accepted at UAI 2025 conference

- Developed RelFCI, a causal discovery algorithm for relational data with latent confounders, extending FCI to non-i.i.d. settings and enabling accurate structure recovery.

Projects

Data Extraction and Analysis using Knowledge Graphs Representation Aug 2023 – Dec 2024
Northeastern University

- Working on the development of a pipeline to extract Compound-Protein Interaction (CPI) data from multiple sources and integrate them, to create augmented dataset to improve the performance of machine learning models

Automatic Domain Specific Genome Graph Partitioning Sep 2022 – Aug 2023
GenoGra

- Developed an algorithm for genome graph partitioning and applied multiple graph alignment tools to speed up the overall process for a genomic analysis framework

GAGET - Genome Assembly Graph Evaluation Toolkit Feb 2021 – Sep 2022
Politecnico di Milano

- Developed a tool to evaluate genome assembly quality using a graph representation
- Created a Python application to visualize the computed evaluation metrics and the genome graph itself
- Devised a new algorithm to select the best alignments to represent the reference genome

Graph Analytics Exploration and Analysis of Electric Networks Sep 2020 – Jan 2021
RSE S.p.A

- Created new metrics ad hoc for the energetic domain to study the criticalities of electric networks
- Developed a web-based visualization tool to visualize these metrics and other calculated information

Technical Skills

Languages: Python, C, C++, Java, JavaScript, SQL
Frameworks: React, CUDA, Spark, Node.js
Tools: Git, LaTeX, Google Cloud Platform, VS Code