Alessia Antelmi

PhD student

Networks · Agent-Based Models and Simulation · User Behavior

About me

Why am I doing a Ph.D., although I was perfectly aware of all those - terribly real - Ph.D. memes?

Well, maybe because I have always been thrilled by learning new stuff, and I saw the opportunity to put my knowledge into practice, giving my contribution to tackle real-world problems.

Mantra

Per aspera sic itur ad astra.
Seneca, Hercules Furens.

Interests

Playing board-games, Working out, Reading.

Languages

Italian mother tongue, Fluent English.

Most Loved

Yep, I'm a geek too! P.s. Find this template here!

My besties are **Julia**, **Python**, and - obviously - **Latex**.

VSCode & (Colab | Jupyter Notebook).

Always torn between *PyPlot* and *Seaborn*.

Wanna be a *PyTorch* ninja.

Research Interests

I am broadly interested in modeling and analyzing complex social phenomena through the lenses of networks and multi-agent systems to effectively discover knowledge and get insights to inform strategic decisions. I am also involved in building practical and efficient frameworks and tools to transform theory into practice.

Education

Since 11/19	**Ph.D. student in Computer Science** @ ISISLab. Supervisor: Prof. Vittorio Scarano	University of Salerno
03/18-08/18	**Erasmus+ Traineeship.** Unit for Social Semantics @ Data Science Institute.	Galway, Ireland
09/15-02/18	**Master Degree in Computer Science.** University of Salerno	110/110 cum laude
09/12-09/15	**Bachelor Degree in Computer Science.** University of Salerno	110/110 cum laude

Collaborations

- **ISISLab @ University of Salerno & Università degli Studi della Campania "Luigi Vanvitelli"**. Intern collaboration with members of my affiliation laboratory, focused on networks, agent-based models and simulation, and user behavior.
- **Warsaw School of Economics (Warsaw, Poland) & Ryerson University (Toronto, Canada).** Joint project funded by NAWA, the Polish National Agency for Academic Exchange, to investigate hypergraph theory and its applications. Under this project, I carried out research and development activities. I have also been a member of the organizing committee of the HyTAC Workshop (link).
- **Fondazione Bruno Kessler (Trento, Italy) & TU Graz (Graz, Austria).** Our collaboration focuses on analyzing and characterizing social phenomena and diffusion processes in gamers' interaction networks.
- **University of Turin (Turin, Italy) & University of Macau (Macau, China).** Our joint effort focuses on studying embedding techniques for high-order networks.

Projects

I collaborate on the following open-source projects.

`SimpleHypergraphs.jl`, a Julia package to model, analyze, and visualize complex networks as hypergraphs (repository). See *Collaborations* for the associated publication.

`D-MASON`, a distributed simulation toolkit built on top of MASON. I worked on an initial version of the framework (repository), then integrated in the main MASON library (repo).

`Rust-AB`, a discrete events simulation engine for developing ABM simulations written in Rust (repository). Current developments of this framework include supporting a parallel version of the library.

Teaching & Mentoring

Help Teaching

DP **Distributed Programming.**
April - September, 2019.

CT **Computational Theory.**
April - September, 2019 | April - July, 2020 | April - July, 2021.

CA **Computer Architecture.**
November - February, 2019/2020 | November - February, 2020/2021.

Pr&DS **Programming and Data Structure.**
April - July, 2021.

Mentoring

Since my first Ph.D. year, I have had the opportunity to coordinate and supervise some interns' work. I have collaborated with two master and five bachelor students, and I am currently monitoring a bachelor student's thesis.