Lucio La Cava, Ph.D.

DIMES Dept., Via P. Bucci 44Z, University of Calabria, Rende (CS), Italy

✉ lucio.lacava@dimes.unical.it | 🏠 luciolacava.me | in lucio-la-cava | 🐦 @luciolcw

Education

Assistant Professor (RTD-A)
DIMES Dept., University of Calabria
Rende, Italy
May 2024 - ongoing

Ph.D. in Information and Communication Technologies
DIMES Dept., University of Calabria
Rende, Italy
Nov. 2020 - Feb. 2024
- Thesis: *"Graph Mining and Multimodal Representation Learning for Decentralized Socio-Economic Domains"*
- Supervisors: Prof. Sergio Greco and Prof. Andrea Tagarelli
- Final mark: Excellent Cum Laude

MSc in Computer Engineering
DIMES Dept., University of Calabria
Rende, Italy
Sep. 2017 - July 2020
- Thesis: *"Decentralization of social networks in federation of instances: exploratory and generative profiling models in Mastodon"*
- Supervisor: Prof. Andrea Tagarelli
- Final mark: Magna Cum Laude

BSc in Computer Engineering
DIMES Dept., University of Calabria
Rende, Italy
Sep. 2014 - Sep. 2017
- Thesis: *"Outlier detection: techniques for data analysis"*
- Supervisor: Prof. Luigi Palopoli
- Final mark: 106/110

Experience

Visiting Researcher
NEtwoRks, Data, and Society (NERDS) group, IT University of Copenhagen
Copenhagen, Denmark
August 2025 - September 2025
- Advisor: Prof. Luca Maria Aiello
- Project: COCOONS (COllective COordination through ONline Social media)

Junior Fellow
Fondazione Bruno Kessler (FBK), Complex Human Behavior Lab
Trento, Italy
January 2024 - ongoing
- Collaborating on the AI-CODE (AI services for COntinuous trust in emerging Digital Environments) Project, Funded by the European Union

Team Member - Research Projects of National Relevance
AWESOME: Analysis framework for WEb3 SOcial MEdia
DIMES Dept., Univ. Calabria
June 2023 - ongoing
- Approved for funding by MUR under the programme PRIN 2022
- Line Physical Sciences and Engineering PE6 (Computer Science and Informatics

Visiting Ph.D. Student
NEtwoRks, Data, and Society (NERDS) group, IT University of Copenhagen
Copenhagen, Denmark
January 2023 - April 2023
- Advisor: Prof. Luca Maria Aiello
- Project: COCOONS (COllective COordination through ONline Social media)

Honors & Awards

2024 **WebSci'24 Best Short Paper Award**, "Polarization in Decentralized Online Social Networks" *Sponsored by ACM SIGWEB*

2023	**AEGEAN Scholarship**, Top students at the Mediterranean Machine Learning (M2L) Summer School	*Thessaloniki, Greece*
2023	**Zhipu Student Travel Award**, The ACM Web Conference 2023	*Austin, Texas*
2022	**SIGIR 2022 Student Travel Grant**, The 45th International ACM SIGIR Conference on Research and Development in Information Retrieval	*Madrid, Spain*
2020	**Italian qualification to practice as an Engineer**, Section A - Field: Information Technology, no exp. date	*University of Calabria*

Publications

JOURNALS

La Cava, L., & Tagarelli, A. "Safeguarding Decentralized Social Media: LLM Agents for Automating Community Rule Compliance". **Online Social Networks and Media** 48, 100319 (2025). DOI: 10.1016/j.osnem.2025.100319 [**Q1** - IF: 2.9]

Galdeman, A., **La Cava, L.**, Zignani, M., Tagarelli, A. & Gaito S. "Characterizing NFT Markets through a Multilayer Network Approach." **Blockchain: Research and Applications** 2025. DOI: 10.1016/j.bcra.2025.100356. [**Q1** - IF: **5.6**]

Antelmi, A., **La Cava, L.**, & Pera, A. "Characterizing swing voters in online social media: the case of the 2022 Italian elections." **Soc. Netw. Anal. Min.** 15, 77 (2025). DOI: 10.1007/s13278-025-01457-4 [**Q2** - IF: **2.8**]

Martirano, L., **La Cava, L.**, & Tagarelli, A. "Unveiling User Dynamics in the Evolving Social Debate on Climate Crisis During the Conferences of the Parties." **Pervasive and Mobile Computing** (2025). DOI: 10.1016/j.pmcj.2025.102077 [**Q2** - IF: **3.5**]

La Cava, L., Costa, D. & Tagarelli, A. "Visually Wired NFTs: Exploring the Role of Inspiration in Non-Fungible Tokens." **ACM Transactions on the Web** (2025). DOI: 10.1145/3703411 [**Q2**]

La Cava, L., Aiello, L.M. & Tagarelli, A. "Drivers of social influence in the Twitter migration to Mastodon." **Nature Scientific Reports** 13, 21626 (2023). DOI: 10.1038/s41598-023-48200-7 [**Q1** - IF: **4.6**]

Costa, D., **La Cava, L.**, & Tagarelli, A. "Unraveling the NFT economy: A comprehensive collection of Non-Fungible Token transactions and metadata." **Data in Brief** 51, 109749 (2023). DOI: 10.1016/j.dib.2023.109749 [**Q2** - IF: **1.2**]

La Cava, L., Greco, S. & Tagarelli, A. "Information consumption and boundary spanning in Decentralized Online Social Networks: The case of Mastodon users." **Online Social Networks and Media** 30, 100220 (2022). DOI: 10.1016/j.osnem.2022.100220 [**Q1** - IF: 2.9]

La Cava, L., Greco, S. & Tagarelli, A. "Understanding the growth of the Fediverse through the lens of Mastodon." **Applied Network Science** 6, 64 (2021). DOI: 10.1007/s41109-021-00392-5 [**Q1** - IF: **2.2**]

CONFERENCE PROCEEDINGS

La Cava, L., & Tagarelli, A. "OpenTuringBench: An Open-Model-based Benchmark and Framework for Machine-Generated Text Detection and Attribution" Accepted with **EMNLP 2025** (Main).

Greco, C. M., **La Cava, L.**, Zangari, L. & Tagarelli, A. "Exploring LLMs' Ability to Spontaneously and Conditionally Modify Moral Expressions through Text Manipulation" **ACL 2025** (Main), The 63rd Annual Meeting of the Association for Computational Linguistics. DOI: 10.18653/v1/2025.acl-long.883 [CORE: **A***]

La Cava, L. & Tagarelli, A. "Open Models, Closed Minds? On Agents Capabilities in Mimicking Human Personalities through Open Large Language Models" 2024, **AAAI 2025**, The 39th Annual AAAI Conference on Artificial Intelligence. DOI: 10.1609/aaai.v39i2.32125 [CORE: **A*** - AR: **23.4%**]

Greco, C. M., **La Cava, L.**, & Tagarelli, A. "Talking the Talk Does Not Entail Walking the Walk: On the Limits of Large Language Models in Lexical Entailment Recognition" **EMNLP 2024** (Findings). DOI: 10.18653/v1/2024.findings-emnlp.881

La Cava, L., Costa, D. & Tagarelli, A. "Is Contrasting All You Need? Contrastive Learning for the Detection and Attribution of AI-generated Text." **ECAI '24**, 27th European Conference on Artificial Intelligence. DOI: 10.3233/FAIA240862 [CORE: **A** - AR: **23%**]

La Cava, L., Mandaglio, D. & Tagarelli, A. "Polarization in Decentralized Online Social Networks." **WebSci '24**, 16th ACM Conference on Web Science. DOI: 10.1145/3614419.3644013

Bono, C., **La Cava, L.**, Luceri, L. & Pierri, F. "An Exploration of Decentralized Moderation on Mastodon." **WebSci '24**, 16th ACM Conference on Web Science. DOI: 10.1145/3614419.3644016

La Cava, L., Costa, D. & Tagarelli, A. "SONAR: Web-based Tool for Multimodal Exploration of Non-Fungible Token Inspiration Networks." **SIGIR '23**, The ACM SIGIR Conference on Research and Development in Information Retrieval. DOI: 10.1145/3539618.3591821 [CORE: **A***]

Costa, D., **La Cava, L.**, & Tagarelli, A. "Show me your NFT and I tell you how it will perform: Multimodal representation learning for NFT selling price prediction." **WWW '23**, The ACM Web Conference. DOI: 10.1145/3543507.3583520 [CORE: **A*** - AR: **19.2%**]

Martirano, L., **La Cava, L.**, & Tagarelli, A. "Evolution of the Social Debate on Climate Crisis: Insights from Twitter During the Conferences of the Parties." ICT-DM '23, Int. Conf. Information and Communication Techn. for Disaster Management. DOI: 10.1109/ICT-DM58371.2023.10286927

Gullo, F., **La Cava, L.**, Mandaglio, D., & Tagarelli, A. "When Correlation Clustering Meets Fairness Constraints." **DS '22**, Discovery Science. DOI: 10.1007/978-3-031-18840-4_22 [CORE: **B**]

La Cava, L., Simeri, A. & Tagarelli, A. "LawNet-Viz: A Web-based System to Visually Explore Networks of Law Article References." **SIGIR '22**, The ACM SIGIR Conference on Research and Development in Information Retrieval. DOI: 10.1145/3477495.3531668 [CORE: **A***]

La Cava, L., Greco, S. & Tagarelli, A. "Network Analysis of the Information Consumption-Production Dichotomy in Mastodon User Behaviors." **ICWSM '22**, The International AAAI Conference on Web and Social Media. DOI: 10.1609/icwsm.v16i1.19391 [CORE: **A**]

La Cava, L., Greco, S. & Tagarelli, A. "Discovering the Landscape of Decentralized Online Social Networks through Mastodon." SEBD '22, The Italian Symposium on Advanced Database Systems.

Workshops

Galdeman, A., **La Cava, L.**, Zignani, M., Tagarelli, A. & Gaito, S. "Clubs of wallets: a dive into the mesoscopic features of NFT transaction networks." First Workshop ComplexDataBlocks: Data Science and Complexity on the Blockchain, in conjunction with **CCS** 2022

La Cava, L., Simeri, A. & Tagarelli, A. "The Italian Civil Code Network Analysis." First International Workshop RELATED - Relations in the Legal Domain Workshop, in conjunction with **ICAIL** 2021

Preprints

La Cava, L., Macko, D., Móro, R., Srba, I., & Tagarelli, A. (2025). "Authorship Attribution in Multilingual Machine-Generated Texts" 2025, arXiv:2508.01656

La Cava, L., Mandaglio, D., Zangari, L., & Tagarelli, A. "Heuristic-Informed Mixture of Experts for Link Prediction in Multilayer Networks" 2025, arXiv:2501.17557

Presentations

Talks

6 Feb. 2025. "Researching Next-Gen Social Media Ecosystems & Scientific Research in the Age of Big Players." **NetPLACE Seminars**, Online.

30 Jan. 2024. "Discovering Decentralized Online Social Media through the lens of Mastodon." Invited talk: **Oxford Internet Institute**, University of Oxford, UK.

Tutorials

Galdeman, A., **La Cava, L.** "Mining, Modeling, and Analyzing Decentralized Social Media." **ASONAM** 2024, University of Calabria, Rende, Italy, 2 September 2024

La Cava, L. "The Rise of the Fediverse: Shaping the Future of Social Media Research through Mastodon." **ASONAM** 2023, Kusadasi, Turkey, 6 November 2023

La Cava, L., Costa, D. & Tagarelli, A. "Is Contrasting All You Need? Contrastive Learning for the Detection and Attribution of AI-generated Text." **ECAI '24**, 21st October 2023, **Santiago de Compostela, Spain**

La Cava, L., Costa, D. & Tagarelli, A. "SONAR: Web-based Tool for Multimodal Exploration of Non-Fungible Token Inspiration Networks." **SIGIR '23**, 25 July 2023, **Taipei, Taiwan (Online)** .

Costa, D., **La Cava, L.**, & Tagarelli, A. "Show me your NFT and I tell you how it will perform: Multimodal representation learning for NFT selling price prediction." **WWW '23**, 2 May 2023, **Austin, Texas**

Gullo, F., **La Cava, L.**, Mandaglio, D., & Tagarelli, A. "When Correlation Clustering Meets Fairness Constraints." **DS '22**, 11 October 2022, **Montpellier, France**

La Cava, L., Simeri, A. & Tagarelli, A. "LawNet-Viz: A Web-based System to Visually Explore Networks of Law Article References." **SIGIR '22**, 12 July 2022, **Madrid, Spain**

La Cava, L., Greco, S. & Tagarelli, A. "Network Analysis of the Information Consumption-Production Dichotomy in Mastodon User Behaviors." **ICWSM '22**, 8 June 2022, **Atlanta, Georgia (Online)**

La Cava, L., Greco, S. & Tagarelli, A. "Discovering the Landscape of Decentralized Online Social Networks through Mastodon." SEBD '22, 20 June 2022, **Pisa, Italy**

Teaching

2025 - ongoing	**Data Mining and Bioimages**, [39 hours] Master's Degree in Medicine and Surgery - Digital Technologies	*Univ. Calabria*
2024 - 2025	**Algorithms and Data Structures**, [19 hours] Bachelor's Degree in Computer Engineering (Bioengineering)	*DIMES Dept., Univ. Calabria*

Teaching Assistance

2025 - ongoing	**Data Mining**, [18 hours] Bachelor's Degree in Computer Engineering (AI & ML)	*DIMES Dept., Univ. Calabria*
2024 - 2025	**Algorithms and Data Structures**, [9 hours] Bachelor's Degree in Computer Engineering (Bioengineering)	*DIMES Dept., Univ. Calabria*
2021 - 2024	**Data Mining**, [16 hours] Master's Degree in Computer Engineering (AI & ML)	*DIMES Dept., Univ. Calabria*
2023 - 2024	**Algorithms and Data Structures**, [18 hours] Bachelor's Degree in Computer Engineering	*DIMES Dept., Univ. Calabria*
2022 - 2023	**Social Networks and Media Analysis**, [8 hours] Master's Degree in Computer Engineering	*DIMES Dept., Univ. Calabria*
2021 - 2023	**Big Data Analytics**, [16 hours] Master's Degree in Computer Engineering for the Internet of Things	*DIMES Dept., Univ. Calabria*
2020 - 2021	**Networks and Systems in Bioinformatics**, [16 hours] Master's Degree in Computer Engineering (Big Data and Bioinformatics)	*DIMES Dept., Univ. Calabria*

Other Teaching Experiences

May 2025	**Large Language Models: from Theory to Applications**, [10 hours] PhD-level Course	*Uppsala University, Sweden*

Ph.D. Students Co-Supervision

2024 - ongoing	**Silvio Raso**, Ph.D. Program in Information and Communication Technologies	*DIMES Dept., University of Calabria*

Thesis (Co-)Supervision

2024-2025	**Argument Mining and Large Language Models: Identification and Classification of Argument Components**, M.Sc. in Computer Engineering, University of Calabria
2024-2025	**Detection of Texts by Large Language Models Conditioned on Individual Profiles**, M.Sc. in Computer Engineering, University of Calabria
2024-2025	**Design and Development of a System for the Analysis of Bank Frauds**, B.Sc. in Computer Engineering, University of Calabria
2024-2025	**Phishing and Artificial Intelligence: Perspectives for Red Teams e Blue Teams**, B.Sc. in Computer Engineering, University of Calabria
2023-2024	**Modeling and structural analysis of voting relationships in blockchain-based online social media: Steemit as a case study**, M.Sc. in Computer Engineering, University of Calabria
2022-2023	**User Recommendation in Decentralized Online Social Networks**, M.Sc. in Computer Engineering, University of Calabria
2022-2023	**Non-Fungible Tokens: technology, security and applications**, B.Sc. in Computer Engineering, University of Calabria
2022-2023	**Personal ChatBot: generative artificial intelligence for the understanding of individual personality**, M.Sc. in Computer Engineering, University of Calabria
2022-2023	**Pre-trained neural language models for classification and text generation of social media content creators**, M.Sc. in Computer Engineering, University of Calabria
2022-2023	**Topic modeling and affective computing in the languages of different social media content creator roles**, M.Sc. in Computer Engineering, University of Calabria
2022-2023	**Computer vision and digital art: NFT image semantic search based on visual neural models and generation of textual descriptions**, M.Sc. in Computer Engineering, University of Calabria

Organizational Activities

CONFERENCES (SELECTION)

2025 - ongoing	**AAAI 2025: Annual AAAI Conference on Artificial Intelligence**, PC Member
2025 - ongoing	**ICLR 2025: 13th International Conference on Learning Representations**, Reviewer
2025	**TheWebConf 2025: The ACM Web Conference 2025**, Reviewer
2024	**ASONAM 2024: 16th Int. Conf. on Advances in Social Networks Analysis and Mining**, Workshops Chair, Session Chair
2024- ongoing	**ECAI: European Conference on Artificial Intelligence**, PC Member

JOURNALS

2023	**Special Issue on Decentralized Online Social Networks, OSNEM, Elsevier**, Guest Editor

Workshops

2025	**Next-Gen and Alternative Social Media 2025 @ AAAI ICWSM**, General Co-Chair
2024	**DeWeb 2024: 1st Int. Workshop on Decentralizing the Web @ AAAI ICWSM**, General Co-Chair
2023 - ongoing	**MIning DAta for financial applicationS (MIDAS) at ECML-PKDD 2023**, PC Member
2023	**LearnIng and Mining for BlOckchains (LIMBO) at ECML-PKDD 2023**, PC Member