

# Lucio La Cava, Ph.D.

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## Education

### Assistant Professor

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

### 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

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

## Publications

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### JOURNALS

- 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: N/A]
- 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.**, 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/icwsml.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

- Antelmi, A., **La Cava, L.**, & Pera, A. "Finding Hidden Swing Voters in the 2022 Italian Elections Twitter Discourse" 2024, arXiv:2407.01279

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” 2024, arXiv:2406.14894

**La Cava, L.** & Tagarelli, A. “Open Models, Closed Minds? On Agents Capabilities in Mimicking Human Personalities through Open Large Language Models” 2024, arXiv:2401.07115

**La Cava, L.**, Costa, D. & Tagarelli, A. “Visually Wired NFTs: Exploring the Role of Inspiration in Non-Fungible Tokens.” 2023, arXiv:2303.17031

## Presentations

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### INVITED TALKS

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

### TUTORIALS

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

### PRESENTING AUTHOR

**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 Assistance

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

## Thesis Co-Supervision

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- 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

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### JOURNALS

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

### CONFERENCES

- 2024 **ASONAM 2024: 16th Int. Conf. on Advances in Social Networks Analysis and Mining**, Workshops Chair
- 2024 **ECAI 2024: 27th European Conference on Artificial Intelligence**, PC Member
- 2024 **CCS2024: Conference on Complex Systems — the Complex Systems Society**, PC Member
- 2024 **NetSci: International School and Conference on Network Science**, PC Member
- 2024, 2023 **International Conference on Computational Social Science (IC2S2)**, PC Member
- 2024, 2023 **ACM Web Science Conference (WebSci)**, PC Member

### WORKSHOPS

- 2024 **DeWeb 2024: 1st Int. Workshop on Decentralizing the Web @ AAI ICWSM**, Co-Organizer
- 2023 **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

### PEER REVIEW

I serve as a reviewer for Premier international conferences — including KDD, IJCAI, TheWebConf, SDM/SIAM — and journals — including Social Network Analysis and Mining (SNAM), Information Systems (IS), Applied Network Science (APNS), Transactions on the Web (TWeb)