

# Lucio La Cava, Ph.D.

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## Education

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### 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

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### 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

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2023	<b>AEGEAN Scholarship</b> , Top students at the Mediterranean Machine Learning (M2L) Summer School	Thessaloniki, Greece
2023	<b>Zhipu Student Travel Award</b> , The ACM Web Conference 2023	Austin, Texas
2022	<b>SIGIR 2022 Student Travel Grant</b> , 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

- La Cava, L.**, Costa, D. & 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)