

Lucio La Cava

PH.D. CANDIDATE · MULTIMODAL DEEP LEARNING & NETWORK SCIENCE

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

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Education

PhD Student in Information and Communication Technologies

DIMES DEPT., UNIVERSITY OF CALABRIA

- Supervisors: Prof. Sergio Greco and Prof. Andrea Tagarelli
- Topic: *Multimodal Representation Learning and Network Science Approaches for the Study of Emerging Decentralized Socio-Economic Systems*

Rende, Italy

Nov. 2020 - ongoing

MSc in Computer Engineering

DIMES DEPT., UNIVERSITY OF CALABRIA

- 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

Rende, Italy

Sep. 2017 - July 2020

BSc in Computer Engineering

DIMES DEPT., UNIVERSITY OF CALABRIA

- Thesis: *"Outlier detection: techniques for data analysis"*
- Supervisor: Prof. Luigi Palopoli
- Final mark: 106/110

Rende, Italy

Sep. 2014 - Sep. 2017

Experience

Visiting Ph.D. Student

NETWORKS, DATA, AND SOCIETY (NERDS) GROUP, IT UNIVERSITY OF COPENHAGEN

- Advisor: Prof. Luca Maria Aiello
- Project: COCOONS (COLlective COOrdination through ONline Social media)

Copenhagen, Denmark

January 2023 - April 2023

Team Member - Research Projects of National Relevance

AWESOME: ANALYSIS FRAMEWORK FOR WEB3 SOCIAL MEDIA

- Approved for funding by MUR under the programme PRIN 2022
- Line Physical Sciences and Engineering PE6 (Computer Science and Informatics)

DIMES Dept., Univ. Calabria

June 2023 - ongoing

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
2020	Italian qualification to practice as an Engineer , Section A - Field: Information Technology, no exp. date	University of Calabria

Publications

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). [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). [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). [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). [Q1 - IF: 2.2]

CONFERENCE PROCEEDINGS

- 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. [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. [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
- Gullo, F., **La Cava, L.**, Mandaglio, D., & Tagarelli, A. “When Correlation Clustering Meets Fairness Constraints.” **DS '22**, Discovery Science.
- 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. [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. [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.**, Mandaglio, D. & Tagarelli, A. “Polarization in Decentralized Online Social Networks.” 2023, arXiv:2312.05668
- La Cava, L.**, Costa, D. & Tagarelli, A. “Visually Wired NFTs: Exploring the Role of Inspiration in Non-Fungible Tokens.” 2023, arXiv:2303.17031

Presentations

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

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

Thesis Co-Supervision

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

Editorial Activities

JOURNALS

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

CONFERENCES

2024, 2023 **International Conference on Computational Social Science (IC2S2)**, PC Member

2024, 2023 **ACM Web Science Conference (WebSci)**, PC Member

WORKSHOPS

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)