

Alessio Orsino

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Current positions

- Ph.D. student in ICT at DIMES (Nov 2021 – today). Supervisors: Prof. Domenico Talia and Prof. Paolo Trunfio.
- Contract professor of Computer Engineering at DIMES (Feb 2022 – today).

Previous positions

- Visiting researcher at the Department of Computer Science and Technology of the University of Cambridge (July 2023 - Dec 2023). Supervisor: Prof. Cecilia Mascolo.
- Research fellow at DIMES (Jan 2021 – Nov 2021) within the *ASPIDE* project. Research title: *In-memory techniques for efficient execution of data-intensive applications on Exascale architectures*. Supervisor: Prof. Fabrizio Marozzo.

Research projects

- “*ASPIDE - exAScale ProgramIng models for extreme Data procEssing*”, funded by the European Union’s Horizon 2020 Research and Innovation Programme.
- “*INSIDER: INtelligent ServIce Deployment for advanced cloud-Edge integRation*”, funded by MIUR as a Research Project of National Interest (PRIN - “Computer Science and Informatics” area).

Professional service

- I served as a reviewer for the following international conferences: International Conference on Machine Learning and Applications (**IEEE ICMLA**) [2021, 2022], International Conference on Big Data (**IEEE BigData**) [2021, 2022], International European Conference on Parallel and Distributed Computing (**Euro-Par**) [2023], Advanced Data Mining and Applications (**ADMA**) [2023], International Conference on Cloud Computing technology and science (**CloudCom**) [2023], International Conference for High Performance Computing, Networking, Storage and Analysis (**SC**) [2024], International Conference on Parallel Processing (**ICPP**) [2024].
- I served as a reviewer for the following journals: ACM Computing Surveys (**ACM CSUR**) [2022], Future Generation Computer Systems (**FGCS**) [2022, 2023, 2024], Journal of Big Data (**J. Big Data**) [2024], IEEE Transactions on Big Data (**IEEE Trans. Big Data**) [2024].
- I was a member of the Reproducibility Committee for the International Conference for High Performance Computing, Networking, Storage and Analysis, formerly Supercomputing Conference (**SC24**, CORE rank: A).

Teaching experience

- Teaching assistant of *Operating systems*, B.Sc. in Computer Engineering at DIMES. Academic years: 2021-2022, 2022-2023, 2023-2024.
- Teaching assistant of *Models and techniques for Big Data*, M.Sc. in Computer Engineering at DIMES. Academic years: 2021-2022, 2022-2023, 2023-2024.
- Co-supervisor of 8 theses of B.Sc. students and 5 M.Sc. students in Computer Engineering at DIMES.

Awards

- Best Student Paper Award for the paper “Edge Computing Solutions for Distributed Machine Learning” at the 8th IEEE International Conference on Cloud and Big Data Computing (CBDCom 2022), Calabria (Italy), 12-15 Sept 2022.

Education and training

- 1st International School on Internet of Things & Edge AI: Computing, Communications and Systems, Calabria (Italy), 8-12 Sept 2022.
- *M.Sc.* in Computer Engineering (highest honors) at DIMES (Oct 2018 - Dec 2020).
- *B.Sc.* in Computer Engineering (highest honors) at DIMES (Sept 2015 - Sept 2018).

Publications

Papers in Refereed Journals

- [1] Cantini, R, Marozzo, F, **Orsino, A**, Talia, D, Trunfio, P, “Exploiting machine learning for improving in-memory execution of data-intensive workflows on parallel machines”. In: *Future Internet* 13.5 (2021).
- [2] Belcastro, L, Cantini, R, Marozzo, F, **Orsino, A**, Talia, D, Trunfio, P, “Programming big data analysis: principles and solutions”. In: *Journal of Big Data* 9.1 (2022).
- [3] Belcastro, L, Marozzo, F, **Orsino, A**, Talia, D, Trunfio, P, “Edge-Cloud Continuum Solutions for Urban Mobility Prediction and Planning”. In: *IEEE Access* 11 (2023).
- [4] Cantini, R, Marozzo, F, **Orsino, A**, Talia, D, Trunfio, P, Badia, RM, Ejarque, J, Vazquez, F, “Block size estimation for data partitioning in HPC applications using machine learning techniques”. In: *Journal of Big Data* (2024).
- [5] Cantini, R, **Orsino, A**, Talia, D, “Xai-driven knowledge distillation of large language models for efficient deployment on low-resource devices”. In: *Journal of Big Data* 11.1 (2024), p. 63.

Papers in Refereed Conference Proceedings

- [6] Marozzo, F, **Orsino, A**, Talia, D, Trunfio, P, “Edge Computing Solutions for Distributed Machine Learning”. In: *2022 IEEE Intl Conf on Dependable, Autonomic and Secure Computing, Intl Conf on Pervasive Intelligence and Computing, Intl Conf on Cloud and Big Data Computing, Intl Conf on Cyber Science and Technology Congress*. IEEE. 2022.

- [7] Belcastro, L, Marozzo, F, **Orsino, A**, Talia, D, Trunfio, P, “Using the Compute Continuum for Data Analysis: Edge-cloud Integration for Urban Mobility”. In: *2023 31st Euromicro International Conference on Parallel, Distributed and Network-Based Processing (PDP)*. 2023, pp. 338–344.
- [8] Marozzo, F, **Orsino, A**, Trunfio, P, Talia, D, “Scaling machine learning at the edge-cloud: a distributed computing perspective”. In: *19th Annual International Conference on Distributed Computing in Smart Systems and the Internet of Things (DCOSS-IoT 2023)*. 2023.

Authored Books

- [9] Talia, D, Trunfio, P, Marozzo, F, Belcastro, L, Cantini, R, **Orsino, A**, *Programming Big Data Applications: Scalable Tools and Frameworks for Your Needs*. ISBN: 978-1-80061-504-5. World Scientific, 2024.

Book Chapters

- [10] Belcastro, L, Marozzo, F, **Orsino, A**, “Hybrid edge/cloud solutions for supporting autonomous vehicles”. In: *Autonomous Vehicles and Systems*. River Publishers, 2022, pp. 255–268.
- [11] Cantini, R, Marozzo, F, **Orsino, A**, “Deep Learning meets Smart Agriculture: using LSTM Networks to handle anomalous and missing sensor data in the Compute Continuum”. In: *Device-Edge-Cloud Continuum - Paradigms, Architectures and Applications*. 2023.
- [12] **Orsino, A**, Cantini, R, Marozzo, F, “Evaluating the performance of a multimodal speaker tracking system at the edge-to-cloud continuum”. In: *Device-Edge-Cloud Continuum - Paradigms, Architectures and Applications*. 2023.
- [13] **Orsino, A**, Talia, D, “Models, Languages and Tools for High-Performance Computing”. In: *Encyclopedia of Bioinformatics and Computational Biology, 2nd Edition*. 2024.

Authorization for the processing of personal data

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use the data provided in this CV.

Rende, 87036 Italy
May 28, 2024

Alessio Orsino