

Curriculum Vitae et Studiorum

Family name, First name: Pappalardo, Luca

ORCID: <https://orcid.org/0000-0002-1547-6007>

Current positions:

- senior researcher at the Institute of Information Science and Technologies (ISTI), National Research Council of Italy (CNR), Pisa, Italy
- part-time associate professor at Scuola Normale Superiore, Pisa, Italy

I'm interested in the analysis of big data describing human social behaviour and in the development of AI models to predict and model such behaviour. I have a long-standing expertise in human mobility analysis and modelling, especially with the use of AI-based tools. I have published 70 peer-reviewed articles in computer science, data science and AI conferences and journals (*Nature Communications*, *Nature Scientific Reports*, *Nature Sustainability*, *Nature Scientific Data*, *Nature Computational Science*, *EPJ Data Science*, *PLoS One*, *ACM Transactions on Intelligent Systems and Technology*, *ACM Computing Surveys*, *Data Mining and Knowledge Discovery*, *Machine Learning*, *IEEE Transactions on Knowledge and Data Engineering*, *ACM International Conference on Advances in Geographic Information Systems*, *The Web Conference*, *International Conference on Data Mining*, *Machine Learning and Knowledge Discovery in Databases*, and more).

[Google Scholar](#)'s H-index: 31, citations: 3873 (14 December 2023).

EDUCATION

2015	PhD in Computer Science, University of Pisa, Italy
2010	Master degree in Computer Science, University of Salerno, Italy
2007	Bachelor degree in Computer Science, University of Salerno, Italy
2007	Diploma vecchio ordinamento in Pianoforte, Conservatory of Salerno, Italy

CURRENT POSITION(S)

2024 –	Associate Professor, Scuola Normale Superiore , Italy
2019 –	Senior Researcher, CNR-ISTI , Italy
2018 –	External professor, Department of Computer Science, University of Pisa , Italy
2011 –	Research Associate, KDD-Lab , CNR & University of Pisa, Italy

PREVIOUS POSITIONS

01-05/2024	Visiting professor, Sciences Po , Paris, France
05/2023	Visiting professor, CentraleSupélec , Paris-Saclay, France
05-06/2022	Visiting professor, INRIA Saclay , Palaiseau, France
04/2022	Visiting professor, Universidad del Desarrollo , Santiago de Chile, Chile

2017 – 2019 Postdoc researcher, [CNR-ISTI](#), Italy
2014 – 2017 Postdoc researcher, [Department of Computer Science, University of Pisa](#)
2014 Researcher, [Budapest University of Technology and Economics](#), Hungary
2014 Visiting Scholar at [Central European University \(CEU\)](#), Budapest, Hungary
09/2013 Visiting Scholar at the [PUC-Rio](#), Rio de Janeiro, Brazil
2011 – 2015 PhD student, [Department of Computer Science, University of Pisa](#), Italy
2012 – 2017 Several times visiting scholar at [Northeastern University](#), USA

AWARDS AND HONOURS

2020 [Young Open Science Award](#), CNR-ISTI, Italy
2020 Honourable Mention at the national prize “[Premio Giovani Ricercatori 2020](#)”
2017 Runner up at [ACM CIKM AnalytiCup 2017](#)
2014 Awarded with grant “Producing official statistics with Big Data”, Google&ISTAT
2013 – 2020 Awarded six times with the [Young Researcher Award](#), CNR-ISTI, Italy

SUPERVISION OF STUDENTS

2021 – 3 postdocs (CNR-ISTI, Italy)
2018 – 6 PhD students (Univ. Pisa, Sapienza Univ. Rome, Free Univ. Bolzano)
2012 – 20+ Master and Bachelor students (University of Pisa, Italy)

TEACHING ACTIVITIES

2023 – Professor, “Time Series and Mobility Data Analysis”, Master post-laurea in Big Data Analytics, University of Pisa, Italy
2022 – External Professor, “Geospatial Analytics”, Master degree in Data Science and Business Informatics, University of Pisa, Italy
2018 – 2022 External Professor, “Big Data Analytics”, Master degree in Data Science and Business Informatics, University of Pisa, Italy
2019 – 2022 Teaching assistant, “Mobility Data Analysis”, Master post-laurea in Big Data Analytics, University of Pisa, Italy
2021 Guest lecturer, “Network Analytics”, Scuola Superiore Sant’Anna, Pisa, Italy
2018 Guest lecturer, “Network Analytics”, European University Institute, Italy
2016–2017 Guest lecturer, Data Science, Master post-laurea in Intelligence, University of Cosenza, Italy
2014 – 2015 Teaching assistant, Social Network Analysis, University of Pisa, Italy

INVITED TALKS

2024 Invited Speaker, CCS2024, Exeter, UK
2023 Keynote Speaker, [NetMob 2023](#), Madrid, Spain

ORGANISATION OF SCIENTIFIC MEETINGS

2025 Program Chair, Hybrid Human Artificial Intelligence (HHAI25), Pisa, Italy
2024 General chair, European Mobility Symposium, Pisa, Italy

2023	Program Chair, International School and Conference on Network Science (NetSci-X), Buenos Aires, Argentina
2020	Tutorial Chair, International Conference in Social Informatics
2018	Workshop chair, SoBigData workshop, Lipari Intl. Summer School
2017 –	Satellite Chair, Quantifying Success, Intl. Conf. on Network Science
2016-2017	Program Chair, Workshop on Data mining for the Analysis of Performance and Success, IEEE Intl. Conf. on Data Mining

INSTITUTIONAL RESPONSIBILITIES

2023– **Principal Investigator** of URBAI (URBan Artificial Intelligence), Italian national research project within the program PRIN (Progetti di rilevante interesse nazionale), 200k euros

2023– **Task leader** of task “Individual vs. collective goals of AI-STS” of Work Package 1 for project FAIR (Future Artificial Intelligence Research), Spoke 1 Human-centred AI, funded by the European Commission under the NextGeneration EU programme.

2023 – **Member of the Board** of the National Ph.D. in Artificial Intelligence for Society

2020 – **Work Package Leader** for Work Package 10 for EU H2020 project [SoBigData++](#) (grant agreement #871042), with the responsibility of coordinating and managing the research on big data analytics conducted within a consortium of more than 30+ partners from 12+ European countries.

2020 – **Task leader** of Work Package 8 for EU H2020 project [SoBigData++](#) (grant agreement #871042), with the responsibility of developing an open-source library for human mobility analysis.

ACTIVITIES as REVIEWER and EDITOR

2023 –	Section Editor, PLoS Complex System
2022	PhD Viva External examiner, Wroclaw University of Environmental and Life Sciences, Poland
2021	Member of the evaluation panel, the National Science Center, Poland
2021 France	PhD Viva External examiner, École doctorale Institut Polytechnique de Paris,
2021	Remote referee, ERC Starting Grants 2021
2020	PhD Viva External examiner, Central European University, Budapest, Hungary
2019 2020	PhD Viva External examiner, University of Trento, Italy Guest Editor, SI “Spatial Data Science and Artificial Intelligence for Human Mobility Research”, International Journal of Geo-Information

2020	Guest Editor, SI “Special issue on social mining and big data ecosystem for open, responsible data science”, International Journal of Data Science and Analytics (JDSA)
2018 –	Academic Editor, PLoS One
2018 Modelling,	Guest Editor, SI “Individual and Collective Human Mobility: Description, Prediction”, EPJ Data Science
2017 Information	Guest Editor, SI “Data Mining for the Analysis of Performance and Success”,

Moreover, I serve as a frequent reviewer for several international journals and conferences (see also my [Publons page](#) for a track record):

- **Journals (selection):** Machine Learning, EPJ Data Science, ACM TIST, ACM CS, IEEE TITS, IEEE TKDE, DAMI, JDSA, Nature Communications, Nature Scientific Data, Scientific Reports, Sensors.
- **Conferences (selection):** ACM SIGKDD, SIAM SDM, ECML-PKDD, TheWebConf, IC2S2, IJCAI, CIKM, NetSci, WebSci, CompleNet, NeurIPS, ICDM, EUSPN, SocInfo, IC2S2, ICIMP, UBIComp.

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

2020 – ACM member, membership ID: 2301533

RESEARCH GRANTS

2023 – **Principal Investigator** of URBAI Artificial Intelligence (URBAI), Italian national research project funded within the program PRIN (Progetti di rilevante interesse nazionale), 200k euros. Project started in September 2023.

Participation in NATIONAL and INTERNATIONAL RESEARCH PROJECTS

Since 2011, Luca has been actively involved (either as principal investigator, work package leader, task leader, or participant) in several national and international research projects. Among them:

- PRIN URBAI (Urban Artificial Intelligence), 2023-2025, Italian National Research Project.
- PNRR [FAIR](#) (Future Artificial Intelligence Research), 2023-2026, Spoke 1 “Human-centred AI”, funded by the European Commission under the NextGeneration EU programme.
- H2020 [LeADS](#) (Legally Attentive Data Scientists), 2021-2024, #956562
- CHIST-ERA [SAI](#) (Social Explainable Artificial Intelligence): 2021-2023
- H2020 [HumanE-AI-Network](#) (Making artificial intelligence human-centric), 2020-2023, #952026

- ERC [XAI](#) (Science and technology for the explanation of AI decision making), 2019-2024, #834756
- H2020 [SoBigData++](#) (European Integrated Infrastructure for Social Mining and Big Data Analytics), 2020-2023, #654024
- H2020 [Track&Know](#) (Big Data for Mobility Tracking Knowledge Extraction in Urban Areas), 2018-2020, #780754
- H2020 [SoBigData](#) (Social Mining and Big Data Ecosystem), 2015-2019, #654024
- H2020 [Cimplex](#) (Bringing Citizens, Models and Data together in Participatory, Interactive Social EXploratories), 2015-2018, #641191
- FP7-ICT [DataSim](#) (DATA science for SIMulating the era of electric vehicles), 2011-2014, #270833
- FP7-PEOPLE [SEEK](#) (Semantic Enrichment of trajectory Knowledge discovery), 2012-2015, #295179

SCIENCE DIVULGATION

Luca Pappalardo has given several invited talks at workshops and seminars on AI and human mobility. Also, Luca has been involved in several divulgation initiatives, including a [TEDx talk](#) on the use of AI in sports and health and a documentary on data science on “[Superquark](#)”, the main science divulgation TV show on RAI, the Italian national television network.

UPDATED PUBLICATION LIST (in chronological order)

1. **Pappalardo, Luca**; Rossetti, Giulio; Pedreschi, Dino; How Well Do We Know Each Other? Detecting Tie Strength in Multidimensional Social Networks, 2012 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, 1040-1045, 2012, IEEE
2. Giannotti, Fosca; **Pappalardo, Luca**; Pedreschi, Dino; Wang, Dashun; A Complexity Science Perspective on Human Mobility, chapter in book “Mobility Data”, 2013, Cambridge University Press, edited by Renso, Chiara; Spaccapietra, Stefano; Zimányi, Esteban
3. **Pappalardo, Luca**; Rinzivillo, Salvatore; Qu, Zehui; Pedreschi, Dino; Giannotti, Fosca; Understanding the patterns of car travel, The European Physical Journal Special Topics, 215, 61-73, 2013, Springer-Verlag
4. **Pappalardo, Luca**; Simini, Filippo; Rinzivillo, Salvatore; Pedreschi, Dino; Giannotti, Fosca; Comparing general mobility and mobility by car, Proceedings of the 1st BRICS Countries Congress (BRICS-CCI) and 11th Brazilian Congress (CBIC) on Computational Intelligence, 2013
5. Cintia, Paolo; **Pappalardo, Luca**; Pedreschi, Dino; Engine Matters: A First Large Scale Data Driven Study on Cyclists' Performance, 2013 IEEE 13th International Conference on Data Mining Workshops, 147-153, 2013, IEEE

6. Pennacchioli, Diego; Rossetti, Giulio; **Pappalardo, Luca**; Pedreschi, Dino; Giannotti, Fosca; Coscia, Michele; The three dimensions of social prominence, International Conference on Social Informatics, 319-332, 2013, Springer International Publishing Cham
7. Kopp, Christine; Kochan, Bruno; May, Michael; **Pappalardo, Luca**; Rinzivillo, Salvatore; Schulz, Daniel; Simini, Filippo; Evaluation of spatio-temporal microsimulation systems, chapter in book "Data Science and Simulation in Transportation Research", 141-166, 2014, IGI Global
8. Rinzivillo, Salvatore; Gabrielli, Lorenzo; Nanni, Mirco; **Pappalardo, Luca**; Pedreschi, Dino; Giannotti, Fosca; The purpose of motion: Learning activities from individual mobility networks, 2014 international conference on data science and advanced analytics (DSAA), 312-318, 2014, IEEE
9. Marchetti, Stefano; Giusti, Caterina; Pratesi, Monica; Salvati, Nicola; Giannotti, Fosca; Pedreschi, Dino; Rinzivillo, Salvatore; **Pappalardo, Luca**; Gabrielli, Lorenzo; Small area model-based estimators using big data sources, Journal of Official Statistics, 31, 2, 263-281, 2015
10. Cintia, Paolo; Rinzivillo, Salvatore; **Pappalardo, Luca**; A network-based approach to evaluate the performance of football teams, Machine learning and data mining for sports analytics workshop, Porto, Portugal, 2015
11. Rossetti, Giulio; **Pappalardo, Luca**; Kikas, Riivo; Pedreschi, Dino; Giannotti, Fosca; Dumas, Marlon; Community-centric analysis of user engagement in skype social network, Proceedings of the 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining 2015, 547-552, 2015
12. **Pappalardo, Luca**; Simini, Filippo; Rinzivillo, Salvatore; Pedreschi, Dino; Giannotti, Fosca; Barabási, Albert-László; Returners and explorers dichotomy in human mobility, Nature communications, 6, 1, 8166, 2015, Nature Publishing Group UK London
13. Cintia, Paolo; Giannotti, Fosca; **Pappalardo, Luca**; Pedreschi, Dino; Malvaldi, Marco; The harsh rule of the goals: Data-driven performance indicators for football teams, 2015 IEEE International Conference on Data Science and Advanced Analytics (DSAA), 1-10, 2015, IEEE
14. **Pappalardo, Luca**; Pedreschi, Dino; Smoreda, Zbigniew; Giannotti, Fosca; Using big data to study the link between human mobility and socio-economic development, 2015 IEEE International Conference on Big Data (Big Data), 871-878, 2015, IEEE
15. Rossetti, Giulio; **Pappalardo, Luca**; Rinzivillo, Salvatore; A novel approach to evaluate community detection algorithms on ground truth, Complex Networks

VII: Proceedings of the 7th Workshop on Complex Networks CompleNet 2016, 133-144, 2016, Springer International Publishing

16. **Pappalardo, Luca**; Rinzivillo, Salvatore; Simini, Filippo; Human mobility modelling: exploration and preferential return meet the gravity model, *Procedia Computer Science*, 83, 934-939, 2016, Elsevier
17. **Pappalardo, Luca**; Vanhoof, Maarten; Gabrielli, Lorenzo; Smoreda, Zbigniew; Pedreschi, Dino; Giannotti, Fosca; An analytical framework to nowcast well-being using mobile phone data, *International Journal of Data Science and Analytics*, 2016
18. **Pappalardo, Luca**; Simini, Filippo; Data-driven generation of spatio-temporal routines in human mobility, *Data Mining and Knowledge Discovery*, 2017
19. Cintia, Paolo; Coscia, Michele; **Pappalardo, Luca**; The Haka network: Evaluating rugby team performance with dynamic graph analysis, 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), 1095-1102, 2016
20. Rossetti, Giulio; **Pappalardo, Luca**; Pedreschi, Dino; Giannotti, Fosca; Tiles: an online algorithm for community discovery in dynamic social networks, *Machine Learning*, 106, 1213-1241, 2017, Springer US
21. Rossetti, Giulio; **Pappalardo, Luca**; Kikas, Riivo; Pedreschi, Dino; Giannotti, Fosca; Dumas, Marlon; Homophilic network decomposition: a community-centric analysis of online social services, *Social Network Analysis and Mining*, 6, 1-18, 2016, Springer Vienna
22. **Pappalardo, Luca**; Cintia, Paolo; Quantifying the relation between performance and success in soccer, *Advances in Complex Systems*, <https://doi.org/10.1142/S021952591750014X>, 2017
23. Spinsanti, Laura; Berlingerio, Michele; **Pappalardo, Luca**; Mobility and geo-social networks, chapter in book "Mobility Data: Modeling, Management, and Understanding", 16, 2013, Cambridge University Press, edited by Renso, Chiara; Spaccapietra, Stefano; Zimányi, Esteban
24. **Pappalardo, Luca**; The origin of heterogeneity in human mobility ranges, *Proceedings of the Workshops of the EDBT/ICDT 2016 Joint Conference, EDBT/ICDT Workshops 2016*
25. Guidotti, Riccardo; Rossetti, Giulio; **Pappalardo, Luca**; Giannotti, Fosca; Pedreschi, Dino; Market basket prediction using user-centric temporal annotated recurring sequences, 2017 IEEE International Conference on Data Mining (ICDM), 895-900, 2017, IEEE
26. Pellungrini, Roberto; **Pappalardo, Luca**; Pratesi, Francesca; Monreale, Anna; A data mining approach to assess privacy risk in human mobility data, *ACM*

Transactions on Intelligent Systems and Technology (TIST), 9, 3, 1-27, 2017, ACM New York, NY, USA

27. Prieto Curiel, Rafael; **Pappalardo, Luca**; Gabrielli, Lorenzo; Bishop, Steven Richard; Gravity and scaling laws of city to city migration, PloS one, 13, 7, e0199892, 2018, Public Library of Science San Francisco, CA USA
28. Martinucci, Irene; Natilli, Michela; Lorenzoni, Valentina; **Pappalardo, Luca**; Monreale, Anna; Turchetti, Giuseppe; Pedreschi, Dino; Marchi, Santino; Barale, Roberto; de Bortoli, Nicola; Gastroesophageal reflux symptoms among Italian university students: epidemiology and dietary correlates using automatically recorded transactions, BMC gastroenterology, 18, 1-10, 2018, BioMed Central
29. Rossi, Alessio; **Pappalardo, Luca**; Cintia, Paolo; Iaia, F Marcello; Fernández, Javier; Medina, Daniel; Effective injury forecasting in soccer with GPS training data and machine learning, PloS one, 13, 7, e0201264, 2018, Public Library of Science San Francisco, CA USA
30. Natilli, Michela; Monreale, Anna; Guidotti, Riccardo; **Pappalardo, Luca**; Exploring students eating habits through individual profiling and clustering analysis, ECML PKDD 2018 Workshops: MIDAS 2018 and PAP 2018, Dublin, Ireland, September 10-14, 2018, Proceedings 3, 156-171, 2019, Springer International Publishing
31. Ferretti, Michele; Barlacchi, Gianni; **Pappalardo, Luca**; Lucchini, Lorenzo; Lepri, Bruno; Weak nodes detection in urban transport systems: Planning for resilience in Singapore, 2018 IEEE 5th international conference on data science and advanced analytics (DSAA), 472-480, 2018, IEEE
32. Guidotti, Riccardo; Rossetti, Giulio; **Pappalardo, Luca**; Giannotti, Fosca; Pedreschi, Dino; Personalized market basket prediction with temporal annotated recurring sequences, IEEE Transactions on Knowledge and Data Engineering, 31, 11, 2151-2163, 2018, IEEE
33. **Pappalardo, Luca**; Cintia, Paolo; Ferragina, Paolo; Massucco, Emanuele; Pedreschi, Dino; Giannotti, Fosca; PlayeRank: data-driven performance evaluation and player ranking in soccer via a machine learning approach, ACM Transactions on Intelligent Systems and Technology (TIST), 10, 5, 1-27, 2019, ACM New York, NY, USA
34. **Pappalardo, Luca**; Barlacchi, Gianni; Pellungrini, Roberto; Simini, Filippo; Human mobility from theory to practice: Data, models and applications, Companion Proceedings of The 2019 World Wide Web Conference, 1311-1312, 2019
35. **Pappalardo, Luca**; Simini, Filippo; Barlacchi, Gianni; Pellungrini, Roberto; scikit-mobility: A Python library for the analysis, generation and risk assessment of mobility data, Journal of Statistical Software, 103, 4, 1-38, 2022

36. Bruestle, Stephen; **Pappalardo, Luca**; Guidotti, Riccardo; Defining Geographic Markets from Probabilistic Clusters: A Machine Learning Algorithm Applied to Supermarket Scanner Data, Available at SSRN 3452058, 2019
37. **Pappalardo, Luca**; Cintia, Paolo; Rossi, Alessio; Massucco, Emanuele; Ferragina, Paolo; Pedreschi, Dino; Giannotti, Fosca; A public data set of spatio-temporal match events in soccer competitions, Scientific data, 6, 1, 236, 2019, Nature Publishing Group UK London
38. Rossi, Alessio; Perri, Enrico; **Pappalardo, Luca**; Cintia, Paolo; Iaia, F Marcello; Relationship between external and internal workloads in elite soccer players: Comparison between rate of perceived exertion and training load, Applied sciences, 9, 23, 5174, 2019, MDPI
39. Gennady Andrienko, Natalia Andrienko, Chiara Boldrini, Guido Caldarelli, Paolo Cintia, Stefano Cresci, Angelo Facchini, Fosca Giannotti, Aristides Gionis, Riccardo Guidotti, Michael Mathioudakis, Cristina Ioana Muntean, **Luca Pappalardo**, Dino Pedreschi, Evangelos Pournaras, Francesca Pratesi, Maurizio Tesconi & Roberto Trasarti; (So) Big Data and the transformation of the city, International Journal of Data Science and Analytics, 11, 311-340, 2021, Springer International Publishing
40. Alina Sîrbu, Gennady Andrienko, Natalia Andrienko, Chiara Boldrini, Marco Conti, Fosca Giannotti, Riccardo Guidotti, Simone Bertoli, Jisu Kim, Cristina Ioana Muntean, **Luca Pappalardo**, Andrea Passarella, Dino Pedreschi, Laura Pollacci, Francesca Pratesi & Rajesh Sharma; Human migration: The big data perspective, International Journal of Data Science and Analytics, 11, 341-360, 2021, Springer International Publishing
41. Voukelatou, Vasiliki; Gabrielli, Lorenzo; Miliou, Ioanna; Cresci, Stefano; Sharma, Rajesh; Tesconi, Maurizio; **Pappalardo, Luca**; Measuring objective and subjective well-being: dimensions and data sources, International Journal of Data Science and Analytics, 11, 279-309, 2021, Springer International Publishing
42. Sorano, Danilo; Carrara, Fabio; Cintia, Paolo; Falchi, Fabrizio; **Pappalardo, Luca**; Automatic pass annotation from soccer Video Streams based on object detection and LSTM, Machine Learning and Knowledge Discovery in Databases. Applied Data Science and Demo Track. ECML PKDD 2020. Lecture Notes in Computer Science, 12461, 2020
43. Pellungrini, Roberto; **Pappalardo, Luca**; Simini, Filippo; Monreale, Anna; Modeling adversarial behavior against mobility data privacy, IEEE Transactions on Intelligent Transportation Systems, 23, 2, 1145-1158, 2020, IEEE
44. Voukelatou, Vasiliki; **Pappalardo, Luca**; Miliou, Ioanna; Gabrielli, Lorenzo; Giannotti, Fosca; Estimating countries' peace index through the lens of the

world news as monitored by GDELT, 2020 IEEE 7th international conference on data science and advanced analytics (DSAA), 216-225, 2020, IEEE

45. **Pappalardo, Luca**; Cornacchia, Giuliano; Navarro, Victor; Bravo, Loreto; Ferres, Leo; A dataset to assess mobility changes in Chile following local quarantines, *Scientific Data*, 10, 1, 6, 2023, Nature Publishing Group UK London
46. Bohm, M; Nanni, Mirco; **Pappalardo, Luca**; Quantifying the presence of air pollutants over a road network in high spatio-temporal resolution, *Climate Change AI, NeurIPS Workshop*, 2021
47. **Pappalardo, Luca**; Rossi, Alessio; Natilli, Michela; Cintia, Paolo; Explaining the difference between men's and women's football, *PLoS one*, 16, 8, e0255407, 2021, Public Library of Science San Francisco, CA USA
48. **Pappalardo, Luca**; Grossi, Valerio; Pedreschi, Dino; Introduction to the special issue on social mining and big data ecosystem for open, responsible data science, *International Journal of Data Science and Analytics*, 11, 261-262, 2021, Springer International Publishing
49. Cornacchia, Giuliano; **Pappalardo, Luca**; STS-EPR: Modelling individual mobility considering the spatial, temporal, and social dimensions together, *Procedia Computer Science*, 184, 258-265, 2021, Elsevier
50. **Pappalardo, Luca**; Ferres, Leo; Sacasa, Manuel; Cattuto, Ciro; Bravo, Loreto; Evaluation of home detection algorithms on mobile phone data using individual-level ground truth, *EPJ data science*, 10, 1, 29, 2021, Springer Berlin Heidelberg
51. Luca, Massimiliano; Barlacchi, Gianni; Lepri, Bruno; **Pappalardo, Luca**; A survey on deep learning for human mobility, *ACM Computing Surveys (CSUR)*, 55, 1, 1-44, 2021, ACM New York, NY
52. Cornacchia, Giuliano; **Pappalardo, Luca**; A mechanistic data-driven approach to synthesize human mobility considering the spatial, temporal, and social dimensions together, *ISPRS International Journal of Geo-Information*, 10, 9, 599, 2021, MDPI
53. Simini, Filippo; Barlacchi, Gianni; Luca, Massimiliano; **Pappalardo, Luca**; A deep gravity model for mobility flows generation, *Nature communications*, 12, 1, 6576, 2021, Nature Publishing Group UK London
54. Lucchini, Lorenzo; Centellegher, Simone; **Pappalardo, Luca**; Gallotti, Riccardo; Privitera, Filippo; Lepri, Bruno; De Nadai, Marco; Living in a pandemic: changes in mobility routines, social activity and adherence to COVID-19 protective measures, *Scientific reports*, 11, 1, 24452, 2021, Nature Publishing Group UK London

55. Rossi, Alessio; **Pappalardo, Luca**; Cintia, Paolo; A narrative review for a machine learning application in sports: an example based on injury forecasting in soccer, *Sports*, 10, 1, 5, 2021, MDPI
56. Voukelatou, Vasiliki; Miliou, Ioanna; Giannotti, Fosca; **Pappalardo, Luca**; Understanding peace through the world news, *EPJ data science*, 11, 1, 2, 2022, Springer Berlin Heidelberg
57. Luca, Massimiliano; **Pappalardo, Luca**; Lepri, Bruno; Barlacchi, Gianni; Trajectory test-train overlap in next-location prediction datasets, *Machine Learning*, 1-38, 2023, Springer US New York
58. Cardia, Marco; Luca, Massimiliano; **Pappalardo, Luca**; Enhancing crowd flow prediction in various spatial and temporal granularities, *Companion Proceedings of the Web Conference 2022*, 1251–1259, 2022
59. Rossi, Alessio; **Pappalardo, Luca**; Filetti, Cristoforo; Cintia, Paolo; Blood sample profile helps to injury forecasting in elite soccer players, *Sport Sciences for Health*, 19, 1, 285-296, 2023, Springer Milan
60. Rossi, Alessio; Perri, Enrico; **Pappalardo, Luca**; Cintia, Paolo; Alberti, Giampietro; Norman, Darcy; Iaia, F Marcello; Wellness Forecasting by External and Internal Workloads in Elite Soccer Players: A Machine Learning Approach, *Frontiers in Physiology*, 13, 896928, 2022, Frontiers
61. Cornacchia, Giuliano; Böhm, Matteo; Mauro, Giovanni; Nanni, Mirco; Pedreschi, Dino; **Pappalardo, Luca**; How routing strategies impact urban emissions, *Proceedings of the 30th International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL)*, 1-4, 2022
62. Böhm, Matteo; Nanni, Mirco; **Pappalardo, Luca**; Gross polluters and vehicle emissions reduction, *Nature Sustainability*, 1-9, 2022, Nature Publishing Group
63. Resce, Pierpaolo; Vorwerk, Lukas; Han, Zhiwei; Cornacchia, Giuliano; Alamdari, Omid Isfahani; Nanni, Mirco; **Pappalardo, Luca**; Weimer, Daniel; Liu, Yuanting; Connected vehicle simulation framework for parking occupancy prediction, *Proceedings of the 30th International Conference on Advances in Geographic Information Systems, (ACM SIGSPATIAL)*, 1-4, 2022
64. Mauro, Giovanni; Luca, Massimiliano; Longa, Antonio; Lepri, Bruno; **Pappalardo, Luca**; Generating mobility networks with generative adversarial networks, *EPJ data science*, 11, 1, 58, 2022, Springer Berlin Heidelberg
65. Skoki, Arian; Rossi, Alessio; Cintia, Paolo; **Pappalardo, Luca**; Štajduhar, Ivan; Extended Energy-Expenditure Model in Soccer: Evaluating Player Performance in the Context of the Game, *Sensors*, 22, 24, 9842, 2022, MDPI

66. Gambetta, Daniele; Mauro, Giovanni; **Pappalardo, Luca**; Mobility constraints in segregation models, Scientific Reports, 13, 12087, 2023
67. Cornacchia, Giuliano; Nanni, Mirco; **Pappalardo, Luca**; One-Shot Traffic Assignment with Forward-Looking Penalization, Proceedings of the 31st International Conference on Advances in Geographic Information Systems, (ACM SIGSPATIAL), 2023
68. **Pappalardo, Luca**; Manley, Ed; Sekara, Vedran; Alessandretti, Laura; Future directions in human mobility science, Nature Computational Science, 3, 7, 588-600, 2023, Nature Publishing Group US New York
69. Cornacchia, Giuliano; Nanni, Mirco; Pedreschi, Dino; **Pappalardo, Luca**; The Effects of Route Randomization on Urban Emissions, SUMO Conference Proceedings, 4, 75-87, 2023
70. Cornacchia, Giuliano; Nanni, Mirco; Pedreschi, Dino; **Pappalardo, Luca**; Navigation Services and Urban Sustainability, Fluctuation and Noise Letters, 2023