Curriculum vitae

Marco Lippi

Date of birth: May 23rd, 1983.
Place of birth: Pistoia (PT), Italy.
Citizenship: Italian.
Email: marco.lippi@unimore.it, marcolippi83@gmail.com
Webpage: http://www.agentgroup.unimore.it/Lippi

Education

- Ph.D. in Computer and Automation Engineering (Computer Science curriculum), University of Florence, January 2007 - December 2009. Title obtained on March 22nd, 2010.
  - Thesis title: Statistical Learning for Relational and Structured Data.
  - *Committee evaluation: excellent*.
- Master Degree in Computer Science Engineering, University of Florence, September 2006.
  - Thesis: Automatic crossword resolution by semantic filtering (Risoluzione automatica di cruciverba con l'ausilio di un filtro semantico).
  - *Final mark: 110/110, cum laude et encomio*.
- Bachelor Degree in Computer Science Engineering, University of Florence, September 2004.
  - Thesis: Multi-class prediction of cysteine bonding state by Support Vector Machines (Predizione multiclasse mediante Support Vector Machines dei legami che coinvolgono cisteine).
  - *Final mark: 110/110, cum laude*.
- High School Diploma, Liceo Scientifico Amedeo di Savoia Duca d'Aosta, Pistoia (PT), 2001.
  - *Final mark: 100/100*.

Qualifications

- Italian National Scientific Qualification for the role of Full Professor in Computer Engineering (09/H1 – Sistemi di Elaborazione delle Informazioni) on October 10th, 2022.
- Italian National Scientific Qualification for the role of Full Professor in Computer Science (01/B1 – Informatica) on April 29th, 2021.
- Italian National Scientific Qualification for the role of Associate Professor in Computer Science (01/B1 – Informatica) on March 28th, 2018.
- Italian National Scientific Qualification for the role of Associate Professor in Computer Engineering (09/H1 – Sistemi di Elaborazione delle Informazioni) on January 23rd, 2015.

- Qualified for the public competition as a third-level researcher at the National Research Council (CNR), scientific area "Computer sciences and information engineering", Strategic asset "Bioinformatics", work theme "Models, efficient algorithms and software for the analysis and visualization of large biologic data bases". Ref. CNR competition 364.95.
- Qualifying examination for Professional Practice as Computer Science Engineer, January 2007.

Academic Positions

- University of Modena and Reggio Emilia, Department of Sciences and Methods for Engineering
  - November 2019 – today — Associate professor in Computer Engineering
  - November 2016 – November 2019 — Assistant professor with tenure-track (ricercatore a tempo determinato – tipologia B) in Computer Engineering
- European University Institute, Department of Law, Florence
  - September 2020 – February 2021 — Visting professor at the Department of Law.
- University of Bologna, Department of Computer Science and Engineering
  - November 2014 – October 2016 — Post-doc fellow within the programme "Argumentation techniques for opinion mining and social network analysis" (ref. Prof. Paolo Torroni).
- Laboratoire d'Informatique de Paris 6, Université Pierre & Marie Curie (LIP6-UPMC), Paris
  - March 2014 – June 2014 — Visiting scholar in the research group headed by Prof. Patrick Gallinari.
- University of Siena, Department of Information Engineering[1]
  - November 2012 – October 2014 — Post-doc fellow (assegnista di ricerca) for the DVA Project (Developmental Visual Agents) (ref. Prof. Marco Gori) co-funded by Tuscany region within POR-CRO FSE 2007-2013 funding programme.
  - August 2011 – August 2012 — Research scolarship as "Ricercatore in azienda" ("Researcher internship") funded by Fondazione Monte dei Paschi di Siena and Provincia di Siena for research activities within the Deparment of Informatics Engineering (ref. Prof. Marco Gori) and QuestIT s.r.l. (ref. Marco Ernandes), spin-off of University of Siena.
  - March 2011 – July 2011 — Collaborator (co.co.co.) within the programme "Learning from constraints" (ref. Prof. Marco Gori).
- University of Florence, Department of Systems and Computer Science
  - March 2010 – February 2011 — Post-doc fellow (assegnista di ricerca) within the programme "Logic-probabilistic learning" (ref. Prof. Paolo Frasconi).
  - January 2010 — Collaborator for the project "Development of statistical relational learning algorithms for traffic flow forecasting" (ref. Prof. Paolo Frasconi)
  - May 2009 – November 2009 — Collaborator (co.co.co.) for the project "Development of statistical relational learning algorithms for traffic flow forecasting"

[1] From January 2014 Department of Information Engineering and Mathematical Sciences.

Teaching experiences

- University of Modena and Reggio Emilia, Department of Sciences and Methods for Engineering
  - Supervision of PhD students: Matteo Martinelli (XXXVI cycle)
  - Supervision of BSc and MSc theses: 10+ (BSc), 40+ (MSc)
  - Co-lecturer for the course "Artificial Intelligence and Data Science" (54 hourse) in the M.Sc in Management Engineering — A.A. 2022/2023.
  - Lecturer for the course "Advanced Concepts in Machine Learning" (12 hours) for the PhD Programme in Industrial Innovation Engineering, June 2022.
  - Lecturer for the course "Neuro-Symbolic Learning (with applications to NLP)" (12 hours) for the national PhD programme in AI & Society, June 2022.
  - Co-lecturer for the course "Programming Languages and Systems" (6 CFU, 54 ore) in the B.Sc in Management Engineering — A.A. 2021/2022 – today.
  - Lecturer for the course "Data Science and Management" (81 hours) in the M.Sc in Management Engineering — A.A. 2020/2021 – today.
  - Co-lecturer for the course "Foundations of Computer Programming" (54 hours) in the B.Sc in Mechatronics Engineering — A.A. 2019/2020 – today.
  - Lecturer for the "Machine Learning" course (12 hours) in the PhD Program in Industrial Innovation Engineering, July 2020.
  - Lecturer for the course "Advanced Information Systems" (81 hours) in the M.Sc in Management Engineering — A.A. 2017/2018 – 2019/2020.
  - Co-lecturer for the course "Foundations of Computer Programming" (27 hours) in the B.Sc in Mechatronics Engineering — A.A. 2016/2017 – 2018/2019.
  - Lecturer for the "Machine Learning" course (15 hours) in the PhD Program in Industrial Innovation Engineering, February 2018.
- University of Bologna, Department of Computer Science and Engineering
  - Co-supervisor of PhD students: Andrea Galassi (XXXIII ciclo), Federico Ruggeri (XXXIV ciclo)
  - Lecturer for the "Machine Learning" course (20 hours) in the PhD Program in Computer Science and Engineering, April 2016.
  - Lecturer for the pre-course "Basics of Computer Programming for Automation Engineering", for students that will attend the 1st year degree in "Automation Engineering" — A.A. 2015/2016, 2016/2017.
  - Tutor for the course "Reti Logiche T" (Digital circuits), 1st year degree in Computer Engineering, by Dott. Federico Tombari — A.A. 2014/2015, 2015/2016.
  - Tutor for the course "Fondamenti di Informatica T-1" (Foundations of computer science), 1st year degree in Computer Engineering, by Proff. Paola Mello e Federico Chesani — A.A. 2015/2016, 2016/2017.
  - Guest Lecturer per il corso "Sistemi Intelligenti M", primo anno del Corso di Laurea Magistrale in Ingegneria Informatica, tenuto dalla Prof.ssa Michela Milano — A.A. 2014/2015, 2015/2016.
- University of Siena, Department of Information Engineering[2]

[2]From January 2014 Department of Information Engineering and Mathematical Sciences.

  - Guest lecturer for the Machine Learning course held by Prof. Marco Gori — Academic years 2011/2012, 2012/2013, 2013/2014.

- University of Florence, Department of Systems and Computer Science
  - Guest lecturer for the Machine Learning course held by Prof. Paolo Frasconi — Academic year 2009/2010.
  - Teaching assistant for the Artificial Intelligence course held by Prof. Giovanni Soda — Academic years 2006/2007, 2007/2008, 2008/2009, 2009/2010.
  - Teacher for the continuing education course "SQL e MySQL" at C.S.I.A.F. (Centro Servizi Informatici Ateneo Fiorentino), 24 hours, October 2009
  - Co-supervisor of 20+ BSc and MSc Degree theses in Computer Engineering, in the fields of Artificial Intelligence and Machine Learning

Activities for PhD programmes

National PhD Programme in Artificial Intelligence (AI & Society)

- Member of the Board, XXXVII-XXXVIII cycles

PhD Programme in Industrial Innovation Engineering (University of Modena and Reggio Emilia)

- Member of the Board, XXXVI cycle

Research Interests

- Neural-symbolic learning and reasoning: combining neural architectures and symbolic methods for learning and reasoning tasks, in particular when dealing with structured and relational data.
- Statistical relational models and probabilistic logic models. Integration of graphical models (Markov networks and Bayesian networks) with the first-order logic formalism.
- Natural language processing and argumentation mining.
- Automatic analysis of legal documents for consumer-empowering artificial intelligence.
- Machine learning systems for the Internet of Things (IoT).
- Intelligent systems for the analysis and modeling of transportation networks: traffic flow forecasting with statistical relational learning algorithms and seasonal models.
- Computational finance: machine learning methods for stock market prediction.
- Computational game theory and opponent modeling problems.
- Bioinformatics: protein three-dimensional structure prediction (metal binding sites and contact maps) with relational models combined with neural networks; RNA secondary structure prediction with stochastic grammars and probabilistic-logic models.
- Computer vision: methods for object detection and action recognition within images and videos.
- Inductive logic programming: algorithms for literal evaluation within learning of logic clauses.

Projects

- Principal investigator for the AMICA project (Argument Mining In Covid-19 Articles) funded by national FISR COVID-19 programme, 2021.
- Participation as a researcher in the TAILOR project (Foundations of Trustworthy AI – Integrating Reasoning, Learning and Optimization), network of excellence funded by the H2020-ICT-48-2020 programme, 2020-2023.
- External consultant for the SCUDO project (Semantic Clauses Understanding and Detection platfOrm) funded by Regione Toscana (POR-FESR), 2021-2022.
- Participation as a researcher for the COORSA project (COllaborazione tra Operatori e Robot manipolatori mobili Sicuri per la fAbbrica del futuro) funded by Fondo europeo di sviluppo regionale (POR-FESR), 2019-2021.
- Participation as a researcher and as the responsible of the local unit (UniMORE) for the 2019 project "Social Interaction with Argumentation (ASIA)" funded by Istituto Nazionale di Alta Matematica "Francesco Severi", Gruppo Nazionale per il Calcolo Scientifico (GNCS).
- Participation as a researcher in the CLAUDETTE II project (http://claudette-gdpr.eu) funded by the Research Council of the European University Institute, for the development of an automated detector of potentially unfair clauses in online privacy policies (2019).
- Participation as researcher for the departmental FAR (Fondo di Ateneo per la Ricerca) project DEFLECT "Machine Fault Diagnosis" (2018).
- Participation as a researcher in the CLAUDETTE project (http://claudette.eui.eu) funded by the Research Council of the European University Institute, for the development of an automated detector of potentially unfair clauses in online terms of service (2018).
- Principal investigator for the departmental FAR (Fondo di Ateneo per la Ricerca) project "Sviluppo di un sistema personalizzato a supporto della mobilità urbana tramite smartphone e droni" (2016).
- Participation as a researcher in the FP7 STREP e-Policy (http://www.epolicy-project.eu/) as a researcher, for the development of techniques for Governance and Policy Modeling based on Information e Communication Technology systems (2014).
- Participation as a researcher in the PRIN project *Learning Techniques in Relational Domains and Their Applications*, within the University of Florence and Siena units, in the area of machine learning in relational domains (2011 – 2013).
- Participation as a researcher in the DVA project *Developmental Vision Agents*, co-funded by Tuscany region within the programme POR-CRO FSE 2007-2013, at the University of Siena.
- Principal investigator for the DETECTO project (*OCR for document analysis*) within QuestIT s.r.l., spin-off of the University of Siena for the design and development of automatic systems for the analysis and interpretation of structured documents (2011). The project has been funded by a one-year grant by Fondazione Monte dei Paschi di Siena and by Provincia di Siena.
- Participation as a researcher in the SSAMM project (*Strumenti di supporto per l'agenzia per la mobilità metropolitana*, *Support instruments for the metropolitan mobility agency*) at the University of Florence, in collaboration with Provincia di Firenze, Provincia di Pistoia and Provincia di Prato (2009–2010): analysis of traffic flow in the metropolitan area, design and development of traffic flow predictors.

- Participation as a researcher in the European project BIOPTRAIN (*Bioinformatics Optimization Training*), funded by 6th Framework Programme (2007–2009), for the development of optimization and machine learning algorithms applied to bioinformatics.
- Collaboration with University of Siena, in the context of Master Degree thesis, within the WebCrow project (2006) for the automatic resolution of crosswords (http://webcrow.dii.unisi.it). Project sponsored by a Google Research Grant.

Grants

- Principal investigator for the collaboration with the COBO Group for teaching activities in the area of artificial intelligence (8K €), 2022.
- Finanziamento come sub-contractor per il progetto POR-FESR 2014–2020 finanziato da Regione Toscana "Semantic Clauses Understanding and Detection" (SCUDO) (30K €) 2021-2022.
- Principal investigator for the AMICA project (Argument Mining in Covid-19 Articles) funded by national FISR COVID-19 programme (68K €), 2021.
- Principal investigator for the collaboration with the European University Institute (EUI) for the CLAUDETTE II project (10K €), 2019.
- Principal investigator for the collaboration with the European University Institute (EUI) for the CLAUDETTE II project (5K €), 2018.
- Research grant awarded by the Italian Ministry for Education and Research for the programme "Fondo di Finanziamento delle Attività Base di Ricerca" – FFABR (3K €), 2017.
- Principal investigator for the nVIDIA Hardware Seeding Grant program for the project "Structure Prediction for Argumentation Mining" (1 GPU Titan X Pascal) 2016.
- Principal investigator for the DETECTO project with a one-year grant by Fondazione Monte dei Paschi di Siena and by Provincia di Siena (24K €), 2011.

Collaboration with other Research Groups

- Istituto Nazionale di Astrofisica. Collaboration with Roberto Orosei, Andrea Cicchetti, Marco Cartacci, for the analysis of data collected from MARSIS, with the aim of predicting, with machine learning techniques, the quality of images taken in different zones of Mars surface (2021 – today).
- Istituto Superiore di Sanità. Collaboration with Gianfranco Brambilla, Evaristo Cisbani, Daniele Giansanti, Fabio Magurano, Antonella Rosi, for the automatic analysis of scientific literature with artificial intelligence techniques (2021 – today).
- Arcispedale Santa Maria Nuova, Reggio Emilia. Scientific responsible of the collaboration with the hematology ward (Prof. Stefano Luminari) and medical physics department (Dott. Mauro Iori) for the classification of malignant lymphomas (2017 – today).
- Department of Law, European University Institution. Scientific responsible of the collaboration with Proff. Hans-Wolfgang Micklitz and Giovanni Sartor on machine learning and natural language processing for legal documents for consumer-empowering artificial intelligence (2017 – today).
- Department of Computer Science and Engineering, University of Trento, Italy. Collaboration with Prof. Andrea Passerini within relational machine learning, (2007 – today).

- Department of Biochemistry and Molecular Biophysics at Columbia University, New York, USA. Collaboration with the research group headed by Prof. Burkhard Rost for the prediction of metal binding sites within proteins (2007 – 2011).
- Machine Intelligence Group, Department of Computer Science, Aalborg University, Denmark. Collaboration with Prof. Manfred Jaeger in the area of inductive logic programming and logic representations of knowledge base (2009 – today). Visiting Aalborg University in February 2009.
- Department of Information System Engineering, Ben-Gurion University, Israel. Collaboration with Prof. Ariel Felner for the implementation of efficient heuristic search algorithms (2011 – 2016).

Software

- Web server *AMICA* for the argumentative ranking of Covid-19 literature. (http://amica.unimore.it/)
- Web server *CLAUDETTE* for the analysis of online Terms of Service. (http://claudette.eui.eu/)
- Web server *MARGOT* for argumentation mining. (http://margot.disi.unibo.it)
- Type Extension Trees for feature extraction and learning in relational models (https://github.com/andreapasserini/TET).
- Web server *Metal Detector* for metal binding sites prediction in proteins. (http://metaldetector.disi.unitn.it/)

Publications

Journal publications

J38. Villani, V., Secchi, C., Lippi, M., Sabattini, L. (2023). A General Pipeline for Online Gesture Recognition in Human–Robot Interaction, *IEEE Transactions on Human-Machine Systems*, early access at 10.1109/THMS.2022.3227309, 2023.

J37. Martinelli, M., Lippi, M., Gamberini, R. (2022). Poka Yoke Meets Deep Learning: A Proof of Concept for an Assembly Line Application, *Applied Sciences*, 12(21), 11071, 2022.

J36. Brambilla, G., Rosi, A., Antici, F., Galassi, A., Giansanti, D., Magurano, F., Ruggeri, F., Torroni, P., Cisbani, E., Lippi, M. (2022). Argument mining as rapid screening tool of COVID-19 literature quality: Preliminary evidence, *Frontiers in public health*, 10: 945181, 2022.

J35. Ruggeri, F., Lagioia, F., Lippi, M., Torroni, P. (2022). Detecting and explaining unfairness in consumer contracts through memory networks, *Artificial Intelligence and Law*, 30(1): 59-92, 2022.

J34. De Cesarei, A., Cavicchi, S., Cristadoro, G., Lippi, M. (2021). Do Humans and Deep Convolutional Neural Networks Use Visual Information Similarly for the Categorization of Natural Scenes?, *Cognitive Science*, 45(6), 2021.

J33. Cecaj, A., Lippi, M., Mamei, M., Zambonelli, F. (2021). Sensing and Forecasting Crowd Distribution in Smart Cities: Potentials and Approaches, *IoT 2:(1), 33–49*, 2021.

J32. Cecaj, A., Lippi, M., Mamei, M., Zambonelli, F. (2020). Comparing Deep Learning and Statistical Methods in Forecasting Crowd Distribution from Aggregated Mobile Phone Data, *Applied Sciences 10:(18), 65–80*, 2020.

J31. Galassi, A., Lippi, M., Torroni, P. (2020). Attention in natural language processing, *IEEE Transactions on Neural Networks and Learning Systems*, 2020.

J30. Hadjidimitrou, N., Lippi, M., Mamei, M. (2020), A Data Driven Approach to Match Demand and Supply for Public Transport Planning, *IEEE Transactions on Intelligent Transportation Systems*, 2020.

J29. Lippi, M., Contissa, G., Jablonowska, A., Lagioia, F., Micklitz, H.-W., Palka, P., Sartor, G., Torroni, P. (2020), The Force Awakens: Artificial Intelligence for Consumer Law, *Journal of Artificial Intelligence Research*, 67:169–190, 2020.

J28. Loreti D., Lippi, M., Torroni, P. (2020), Parallelizing Machine Learning as a service for the end-user, *Future Generation Computer Systems, 105: 275–286*, 2020.

J27. Lippi, M., Gianotti, S., Fama, A., Casali, M., Barbolini, E., Ferrari, A., Fioroni, F., Iori, M., Luminari, S., Menga, M., Merli, F., Trojani, V., Versari, A., Zanelli, M., Bertolini, B. (2020), Texture analysis and multiple-instance learning for the classification of malignant lymphomas, *Computer Methods and Programs in Biomedicine*, 185: 105153, 2020.

J26. Hadjidimitriou, N. S., Lippi, M., Dell'Amico, M., Skiera, A., Machine Learning for Severity Classification of Accidents Involving Powered Two Wheelers, *IEEE Transactions on Intelligent Transportation Systems*, 2020.

J25. Galassi, A., Kersting, K., Lippi, M., Shao, X., Torroni, P. (2019), Neural-Symbolic Argumentation Mining: An Argument in Favor of Deep Learning and Reasoning. *Frontiers Big Data 2: 52*, (2019)

J24. Mamei, M., Bicocchi, N., Lippi, M., Mariani, S., Zambonelli, F. (2019), Evaluating Origin-Destination Matrices Obtained from CDR Data, *Sensors*, 19(20): 4470, 2019.

J23. Riguzzi, F., Kersting, K., Lippi, M., Natarajan, S. (2019), Editorial: Statistical Relational Artificial Intelligence, *Frontiers in Robotics and AI*, 2019.

J22. Lippi, M., Contissa, G., Lagioia, F., Micklitz, H.-W., Palka, P., Sartor, G., Torroni, P. (2019), Consumer Protection Requires Artificial Intelligence, *Nature Machine Intelligence*, 1:168–169, 2019.

J21. Lippi, M., Montemurro, M. A., Degli Esposti, M., Cristadoro, G., (2019), Natural Language Statistical Features of LSTM-generated Texts, *IEEE Transactions on Neural Networks and Learning Systems*, April 2019.

J20. Jaeger, M., Lippi, M., Pellegrini, G., Passerini, A. (2019), Counts-of-Counts Similarity for Prediction and Search in Relational Data, *Data Mining and Knowledge Discovery*, March 2019.

J19. Lippi, M., Palka, P., Contissa, G., Lagioia, F., Micklitz, H.-W., Sartor, G., Torroni, P. (2019), CLAUDETTE: an Automated Detector of Potentially Unfair Clauses in Online Terms of Service, *Artificial Intelligence and Law*, February 2019.

J18. Chesani F., Galassi, A., Lippi, M., Mello, P., (2018), Can Deep Networks Learn to Play by the Rules? A Case Study on Nine Men's Morris, *IEEE Transactions on Games*, 10(4): 344–353, 2018.

J17. Lippi, M., Mamei, M., Mariani, S., Zambonelli, F., (2018), An Argumentation-based Perspective over the Social IoT, *IEEE IoT Journal*, 5(4):2537–2547, 2018.

J16. Lippi, M., Torroni, P. (2016), MARGOT: a Web Server for Argumentation Mining, *Expert Systems with Applications*, 65: 292–303, 2016.

J15. Lippi, M., Ernandes, M., Felner, A. (2016). Optimally sorting permutations with efficient partial expansion bidirectional heuristic search, *AI Communications*, 29(4): 513–536, 2016.

J14. Gori, M., Lippi, M., Maggini, M., Melacci, S. (2016). Semantic Video Labeling with Developmental Visual Agents. *Computer Vision and Image Understanding*, 146: 9 –26.

J13. Lippi, M., Torroni, P. (2016). Argumentation Mining: State-of-the-Art and Emerging Trends. *ACM Transactions on Internet Technology*, 16(2), 10:1–10:25.

J12. Lippi, M., (2015). Statistical Relational Learning for Game Theory. *IEEE Transactions on Computational Intelligence and AI in Games*, 99: 1–12.

J11. Frasconi, P., Gabbrielli, F., Lippi, M., Marinai, S. (2014). Markov Logic Networks for Optical Chemical Structure Recognition. *Journal of Chemical Information and Modeling*, 54 (8) :2380–2390.

J10. Jaeger, M., Lippi, M., Passerini, A., Frasconi, P. (2013). Type Extension Trees for feature construction and learning in relational domains. *Artificial Intelligence*, 204: 30–55.

J9. Lippi, M., Bertini, M., Frasconi, P. (2013). Short-Term Traffic Flow Forecasting: An Experimental Comparison of Time-Series Analysis and Supervised Learning. *IEEE Transactions on Intelligent Transportation Systems*, 99: 1–12.

J8. Passerini, A., Lippi, M., Frasconi, P. (2012). Predicting Metal Binding Sites from Protein Sequence. *IEEE Transactions on Computational Biology and Bioinformatics*, 9(1): 203–213.

J7. Menconi, L., Gori, M., Lippi, M., (2011). Computational models for short-term prediction of the stock market. *Intelligenza Artificiale*, 5(2): 217–227.

J6. Shi, W., Punta, M., Bohon, J., Sauder, M., D'Mello, R., Sullivan, M., Toomey J., Abel, D., Frasconi P., Lippi M., Passerini A., Burley S., Rost B. and Chance, M. (2011). Characterization of Metalloproteins by High-Throughput X-ray Absorption Spectroscopy in Structural Genomics. *Genome Research*, 21: 898-907.

J5. Passerini, A., Lippi, M., Frasconi P. (2011) MetalDetector v2.0: predicting the geometry of metal binding sites from protein sequence. *Nucleic Acid Research, Web Server Special Issue*, 39 (suppl 2): W288-W292.

J4. Lippi, M., Jaeger, M., Frasconi, P., Passerini, A. (2010). Relational information gain, *Machine Learning Journal*, 83(2): 219-239.

J3. Lippi, M., Frasconi, P. (2009). Prediction of Protein Beta-Residue Contacts by Markov Logic Networks with Grounding Specific Weights. *Bioinformatics* 25(18):2326-2333.

J2. Costa, F., Passerini, A., Lippi, M., and Frasconi, P. (2009). A Semiparametric Generative Model for Efficient Structured-Output Supervised Learning. *Annals of Mathematics and Artificial Intelligence* 54(1-3):207-222. Special issue on Probabilistic Relational Learning.

J1. Lippi, M., Passerini, A., Punta, M., Rost, B., and Frasconi, P. (2008). MetalDetector: a web server for predicting metal binding sites and disulfide bridges in proteins from sequence. *Bioinformatics* 24(18):2094-2095.

Conference and workshop publications

C43. Lippi, M., Antici, F., Brambilla, G., Cisbani, E., Galassi, A., Giansanti, D., Magurano, F., Rosi, A., Ruggeri, F., Torroni, P. (2022). AMICA: An Argumentative Search Engine for COVID-19 Literature, *31st International Joint Conference on Artificial Intelligence (IJCAI)*: 5932-5935, 2022.

C42. Monica, R., Saccuti, A., Aleotti, J., Lippi, M. (2022). Detection of Unsorted Metal Components for Robot Bin Picking Using an Inexpensive RGB-D Sensor, *27th International Conference on Emerging Technologies and Factory Automation (ETFA)*: 1-8, 2022.

C41. Lippi, M., Mariani, S., Martinelli, M., Zambonelli, F. (2022). Individual and Collective Self-Development: Concepts and Challenges, *17th Conference on Computer Science and Intelligence Systems (FedCSIS)*: 15-21.

C40. Martinelli, M., Mariani, S., Lippi, M., Zambonelli, F. (2022). Self-Development and Causality in Intelligent Environments, *Intelligent Environments (Workshops) 2022*: 248-257.

C39. Jablonowska, A., Lagioia, F., Lippi, M., Micklitz H.-W., Sartor, G., Tagiuri, G. (2021). Assessing the Cross-Market Generalization Capability of the CLAUDETTE System, *34th International Conference on Legal Knowledge and Information Systems (JURIX)*: 62-67., 2021.

C38. Biazon de Oliveira, M., Zucchi, G., Lippi, M., Farias Cordeiro, D., Rosa da Silva, N., Iori, M. (2021). Lead Time Forecasting with Machine Learning Techniques for a Pharmaceutical Supply Chain. *23rd International Conference on Enterprise Information Systems*, 2021.

C37. Lippi, M., Mariani, S., Zambonelli, F. (2021). Developing a "Sense of Agency" in IoT Systems: Preliminary Experiments in a Smart Home Scenario, *Context and Activity Modeling and Recognition (CoMoReA)*, 2021.

C36. Hadjidimitrou, N., Lippi, M., Mamei, M. (2021), Activity Imputation of Shared e-Bikes Travels in Urban Areas, *7th International Conference on Machine Learning, Optimization, and Data Science (LOD)*: 442-456

C35. Galassi, A., Drazewski, K., Lippi, M., Torroni, P. (2020). Cross-lingual Annotation Projection in Legal Texts. *28th International Conference on Computational Linguistics (COLING)*, 2020.

C34. Ruggeri, F., Lagioia, F., Lippi, M., Torroni, P. (2020). Detecting and Explaining Unfairness in Consumer Contracts with Memory Networks. *Law & Machine Learning (LML) Workshop co-located with International Conference on Machine Learning (ICML)*, 2020.

C33. Liepina, R., Ruggeri, F., Lagioia, F., Lippi, M., Drazewski, K., Torroni, P. (2020). Explaining potentially unfair clauses to the consumer with the CLAUDETTE tool. *Workshop on Natural Legal Language Processing (NLLP) co-located with International Conference on Knowledge Discovery in Databases (KDD)*, 2020.

C32. Liepina, R., Contissa, G., Drazewski, K., Lagioia, F., Lippi, M., Micklitz, H.-W., Palka, P., Sartor, G., Torroni, P. (2019). GDPR Privacy Policies in CLAUDETTE: Challenges of Omission, Context and Multilingualism. *3rd Workshop on Automated Semantic Analysis of Information in Legal Text, Montréal, Canada*, 2019.

C31. Mariani, S., Bicego, A., Lippi, M., Mamei, M., Zambonelli, F. (2019), Argumentation-Based Coordination in IoT: A Speaking Objects Proof-of-Concept, 2019. *International Conference on Internet and Distributed Computing Systems (IDCS)*, Naples, 2019.

C30. Lagioia, F., Ruggeri, F., Drazewski, K., Lippi, M., Micklitz, H.-W., Torroni, P., Sartor, G. (2019). Deep Learning for Detecting and Explaining Unfairness in Consumer Contracts, *32nd International Conference on Legal Knowledge and Information Systems (JURIX)*, Madrid, 2019.

C29. Contissa, G., Docter, K., Lagioia, F., Lippi, M., Micklitz, H.-W., Palka, P., Sartor, G., Torroni, P. (2018). Automating the evaluation of privacy policies under the EU General Data Protection Regulation. *31st International Conference on Legal Knowledge and Information Systems (JURIX), Groningen*, 2018.

C28. Mayer, T., Cabrio, E., Lippi, M., Torroni, P., Villata, S. (2018). Argument Mining on Clinical Trials *7th International Conference on Computational Models of Argument (COMMA), Warszaw*, 2018.

C27. Galassi, A., Lippi, M., Torroni, P. (2018). Argumentative Link Prediction using Residual Networks and Multi-Objective Learning *5th Argumentation Mining Workshop, Bruxelles*, 2018.

C26. Passon, M., Lippi, M., Serra, G., Tasso, C. (2018). Predicting the Usefulness of Amazon Reviews Using Off-The-Shelf Argumentation Mining *5th Argumentation Mining Workshop, Bruxelles*, 2018.

C25. Lippi, M., Mamei, M., Zambonelli, F. (2018). Predict Cellular Network Traffic with Markov Logic. *Agents in Traffic and Trasportation (IJCAI Workshop)*, 2018.

C24. Contissa, G., Lagioia, F., Lippi, M., Micklitz, H.-W., Palka, P., Sartor, G., Torroni, P. (2018). Towards Consumer-Empowering Artificial Intelligence. *27th International Joint Conference on Artificial Intelligence (IJCAI), Stockholm*, 2018.

C23. Lippi, M., Palka, P., Contissa, G., Lagioia, F., Micklitz, H.-W., Panagis, Y., Sartor, G., Torroni, P. (2017). Automated Detection of Unfair Clauses in Online Consumer Contracts. *30th International Conference on Legal Knowledge and Information Systems (JURIX), Luxembourg*, 2017.

C22. Lippi, M., Mamei, M., Mariani, S., Zambonelli, F. (2017). Coordinated Distributed Speaking Objects, *37th IEEE International Conference on Distributed Computing Systems (ICDCS), Atlanta*, 2017.

C21. Petraro, A., Caselli, F., Milano, M., Lippi, M. (2017). Driving Behaviour Clustering For Realistic Traffic Micro-Simulators, *European Conference on Modeling and Simulation (ECMS), Budapest*, 2017.

C20. Lippi, M., Sarti, P., Torroni, P. (2016). Argumentative Ranking, *Natural Language Processing meets Journalism (IJCAI 2016 Workshop)*, New York, 2016.

C19. Lippi, M., Ernandes, M., Felner, A. (2016). Optimally sorting permutations with efficient partial expansion bidirectional heuristic search (extended abstract), *Symposium on Combinatorial Search (SoCS)*, Tarrytown, USA, 2016.

C18. Kiziltan, Z., Lippi, M., Torroni, P., (2016). Constraint Detection in Natural Language Problem Descriptions. *International Joint Conference on Artificial Intelligence (IJCAI)*, New York, USA, 2016.

C17. Lippi, M., Torroni, P., (2016). Argument Mining from Speech: Detecting Claims in Political Debates. *American Conference on Artificial Intelligence (AAAI)*, Phoenix, Arizona, USA, 2016.

C16. Lippi, M., Lagioia F., Contissa, G., Sartor, G., Torroni, P. (2015). Claim Detection in Judgments of the EU Court of Justice. *VI Workshop on Artificial Intelligence and the Complexity of Legal Systems (AICOL)*, Braga, Portugal, 2015.

C15. Lippi, M., Torroni, P., (2015). Context-Independent Claim Detection for Argument Mining. *International Joint Conference on Artificial Intelligence (IJCAI)*, Buenos Aires, Argentina, 2015.

C14. Lippi, M., Torroni, P., (2015). Argumentation Mining: a Machine Learning Perspective. *International Workshop on Theory and Applications of Formal Argumentation (TAFA)*, Buenos Aires, Argentina, 2015.

C13. Gori, M., Lippi, M., Maggini, M., Melacci, S., Pelillo, M. (2015). En Plein Air Visual Agents. *International Conference on Image Analysis and Processing (ICIAP)*, Genova, 2015.

C12. Gori, M., Lippi, M., Melacci, S., Maggini, M., (2014). On-line Video Motion Estimation by Invariant Receptive Inputs. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, Long Term Detection and Tracking (LTDT) workshop*, Columbus, OH, 2014.

C11. Melacci, S., Lippi, M., Gori, M., Maggini, M., (2013). Information-based learning of deep architectures for feature extraction. *International Conference on Image Analysis and Processing (ICIAP)*, Napoli, 2013.

C10. Frandina, S., Gori, M., Lippi, M., Maggini, M., Melacci, S., (2013). Inference, Learning, and Laws of Nature. *International Workshop on Neural-Symbolic Learning and Reasoning (NeSy)*, Beijing, 2013.

C9. Frandina, S., Gori, M., Lippi, M., Maggini, M., Melacci, S., (2013). Variational Foundations of Online Backpropagation. *International Conference on Artificial Neural Networks (ICANN)*, Sofia, 2013.

C8. Frandina, S., Lippi, M., Maggini, M., Melacci, S., (2013). On-line Laplacian One-Class Support Vector Machines. *International Conference on Artificial Neural Networks (ICANN)*, Sofia, 2013.

C7. Gori, M., Melacci, S., Lippi, M., Maggini, M., (2012). Information theoretic learning for pixel-based visual agents. *European Conference on Computer Vision (ECCV)*, Firenze, 2012.

C6. Lippi, M., Passerini, M., Punta, M., Frasconi, P. (2012). Metal binding in proteins: machine learning complements X-ray absorption spectroscopy. *European Conference on Machine Learning (ECML)*, Bristol, 2012.

C5. Lippi, M., Ernandes, M., Felner, A., (2012) Efficient single frontier bidirectional search. *Symposium on Combinatorial Search (SoCS)*, Niagara Falls, 2012.

C4. Lippi, M., Menconi, L., Gori, M., (2012) Balancing recall and precision in stock market predictors using support vector machines. *Italian Workshop on Neural Networks (WIRN)*, Vietri sul Mare, 2012.

C3. Lippi, M., Bertini, M., Frasconi, P., (2010). Collective traffic forecasting. *European Conference on Machine Learning (ECML)*, Barcelona, 2010.

C2. Lippi, M., Frasconi P. (2009). Markov Logic improves protein β-partners prediction. *6th International Workshop on Mining and Learning with Graphs (MLG)*, Helsinki, 2008.

C1. Lippi, M., Jaeger, M., Frasconi, P., Passerini, A. (2009). Relational information gain. *19th International Conference on Inductive Logic Programming (ILP)*, Leuven, 2009.

C0. Lippi, M., Popenda, L., Frasconi, P. (2009). RNA secondary structure prediction by mapping Zuker's algorithm into Markov logic. *Bio-Logical 2009, Satellite Workshop of the XI Conference of the Italian Association for Artificial Intelligence (AI*IA)*, Reggio Emilia, 2009.

Book chapters

B3. Palka, P., Lippi, M., (2019). Big Data Analytics, Online Terms of Service, and Privacy Policies, Elgar Publishing, forthcoming, 2020.

B2. Mamei, M., Cilasun, S. M., Lippi, M., Pancotto, F., Tümen, S. (2019). Improve Education Opportunities for Better Integration of Syrian Refugees in Turkey, *Data for Refugees Challenge*, 381–402, 2019.

B1. Salah, A. A., et al. (2019). Policy Implications of the D4R Challenge, *Data for Refugees Challenge*, 477–495, 2019.

Activities as speaker

Lectures, seminars and invited talks

- *Schemes for legal argumentation*, keynote talk at 6th Workshop on Argument Mining, Florence, August 1st, 2019.
- *An introduction to argumentation mining*, keynote talk at Workshop on Science and Technology Studies (STS), Berlin, November 26th, 2019.
- *Artificial Intelligence for Consumer Law*, MIREL workshop, LuxLogAI conference, Luxembourg, 2018.
- *Combattere le fake news: le sfide per l'intelligenza artificiale*, MatNet Summer School, San Pellegrino Terme (BG), 2018.
- *Applications of Statistical Relational Artificial Intelligence*, Advanced Course on Artificial Intelligence (ACAI) PhD School, Ferrara, 2018.
- *Big Data Technologies*, IFOA Webinar, Reggio Emilia, 2018.
- *CLAUDETTE: automated CLAUse DETecTEr*, Stanford CodeX Group Meeting, 2018.
- *Deep Learning Techniques for Data Analysis*, Big Data, Radiomics and Artificial Intelligence, Reggio Emilia, 2017.
- *Machine Learning for Automotive Applications*, Magneti Marelli, Bologna, 2017.
- *Recent Trends in Argumentation Mining*, Dipartimento di Ingegneria dell'Informazione e Scienze Matematiche, Università di Siena, 2017.
- *An introduction to deep learning*, Dipartimento di Scienze Biomediche e Neuromotorie, sede operativa di Fisiologia, Università di Bologna, Giugno 2016.
- *Context-independent argumentation mining*, invited talk at 15th Workshop on Computational Models of Natural Argument (CMNA), October 26th, 2015.
- *An introduction to deep learning*, two seminars at the Department of Mathematics, University of Bologna, October 2015.
- *Learning to see like children, LIP6*, Université Pierre et Marie Curie, Parigi, March 2014.
- *Learning to see like babies*, IMT Institute for Advanced Studies, Lucca, February 2014.
- *Statistical learning for relational data*, Italian Workshop on Neural Networks (WIRN), for the "E. Caianiello" award for the best PhD thesis in the field of neural networks, Vietri sul Mare, May 2012.
- *Markov logic applications*, University of Siena, February 2011.
- *Double-state node heuristic search*, University of Siena, January 2009.

Participation to conferences and workshops as a speaker

- International Joint Conference on Artificial Intelligence (IJCAI), Montréal (virtual), 2021.
- International Joint Conference on Artificial Intelligence (IJCAI), Stockholm, 2018.
- International Workshop on Theory and Applications of Formal Argument (TAFA), Buenos Aires, 2015.

- International Joint Conference on Artificial Intelligence (IJCAI), Buenos Aires, 2015.
- International Conference on Image Analysis and Processing (ICIAP), Napoli, 2013 (poster presentation).
- European Conference on Computer Vision, Firenze, 2012 (poster presentation).
- Italian Workshop on Neural Networks (WIRN), Vietri sul Mare, 2012.
- Working Capital Telecom Italia, elevator pitch della tappa di Firenze, 5 luglio 2011.
- European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), Barcelona, 2010.
- Spring Workshop on Mining and Learning (SML), Jakobsburg, 2010 (poster presentation).
- Bio-Logical workshop, Reggio Emilia, 2009.
- Inductive Logic Programming (ILP), Leuven, 2009.
- BIOPTRAIN workshop, Firenze, 2009.
- Mining and Learning with Graphs (MLG), Helsinki, 2008.

Professional Activities

- Editor:
  - Editorial Board member for "Artificial Intelligence and Law" (2022–today).
  - Editorial Board member for "Machine Learning" (2021–today).
  - Editorial Board member for "Argument and Computation" (2021–today).
  - Editorial Board member for "PLOS ONE" (2019–today).
  - Editorial Board member for "Array" (2019–today).
  - Editorial Board member for "Frontiers in Big Data" (2018–today).
  - Guest co-editor of Frontiers in Robotics and Artificial Intelligence, together with prof. Kristian Kersting (Darmstadt University), Fabrizio Riguzzi (University of Ferrara) and Sriraam Natarajan (Indiana University), for the Special Section on "Relational Artificial Intelligence".
  - Guest co-editor for the Special Session "Argumentation in Social Media" on the ACM Transactions on Internet Technology, with Paolo Torroni (University of Bologna) and Iryna Gurevych (Technische Universität Darmstadt), to be published in January 2017.
- Conference and workshop organization:
  - Organization (Program Chair)
    - Advanced Course on Artificial Intelligence (ACAI) PhD School, 2018, Ferrara.
  - Proceedings Chair
    - European Conference on Machine Learning (ECML) 2016, Riva del Garda.
  - Local Committee Member
    - International Conference on Inductive Logic Programming (ILP) 2010, Firenze.
    - International Workshop on Mining and Learning with Graphs (MLG) 2007, Firenze.
  - Program Commitee Member (list of main events)

    - Neural Information Processing Systems (NeurIPS) 2019–2020.
    - AAAI Conference on Artificial Intelligence (AAAI) 2016–2020.
    - International Joint Conference on Artificial Intelligence (IJCAI) 2011–2020.
    - International Conference on Computational Linguistics (COLING) 2020.
    - International Conference on Empirical Methods in Natural Language Processing (EMNLP) 2019–2020.
    - International Conference of the Association for Computational Linguistics (ACL) 2019.
- Reviewer for the following international journals:
    - Bioinformatics
    - Neurocomputing
    - Neural Networks
    - Neural Processing Letters
    - Artificial Intelligence and Law
    - IEEE Transactions on Neural Networks and Learning Systems
    - IEEE Transactions on Intelligent Transportation Systems
    - IEEE Transactions on Information Systems
    - IEEE Transactions on Computational Intelligence and AI in Games
    - IEEE Transactions on Computational Biology and Bioinformatics
    - Journal of Advanced Transportation
    - Pattern Recognition Letters
    - Artificial Intelligence Journal
    - Machine Learning Journal
    - Argument and Computation
    - Dialogue and Discourse
    - Fondamenta Informaticae
    - Expert Systems with Applications
    - ACM Computing Surveys
    - PLOS ONE

Service Activity

University of Modena and Reggio Emilia, Department of Sciences and Methods for Engineering

- December 2021 – today
  Member of the Quality Commission of the Department
- July 2020
  Member of the Committee for the admission to the PhD Programme in Industrial Innovation Engineering
- September 2017 – today
  Member of the Committee for Italian language admission tests for international students

Awards and Recognitions

- "Data for Refugees Challenge" winner (2019) in the Education track, together with M. Mamei, S. M. Cilasun, F. Pancotto, S. Tumen, awarded by Telekom Turkey `http://d4r.turktelekom.com.tr`.
- Outstanding Reviewer for the journal "Expert Systems with Applications", 2019.
- One-year granted membership for the Association for Computing Machinery (ACM), 2019.
- "E. Caianiello" award (2012) for the best Italian Ph.D. thesis in the field of neural networks. Awarded by Società Italiana REti Neuroniche (SIREN).
- Travel Grant for the participation to IJCAI 2015 (Buenos Aires).

Dichiarazione sostitutiva ai sensi dell'art. 46 del DPR n. 445 del 28/12/2000. Consapevole delle sanzioni penali, nel caso di dichiarazioni non veritiere, di formazione o uso di atti falsi, richiamate dall'art. 76 del D.P.R. 445/2000, dichiaro, ai sensi degli art. 46 e 47 del D.P.R. 445/2000, che quanto sopra corrisponde a verità. Ai sensi del D.Lgs n.196 del 30/06/2003 dichiaro, altresì, di essere informato che i dati personali raccolti saranno trattati, anche con strumenti informatici, esclusivamente nell'ambito del procedimento per il quale la presente dichiarazione viene resa e che al riguardo competono al sottoscritto tutti i diritti previsti all'art. 7 della medesima legge.

Poggio a Caiano, October 19th, 2022

Marco Lippi