

Prof. Dr. Giuseppe Di Fatta

Full Professor - Computer Science, Data Science, Machine Learning
(Scientific Sector: ING-INF/05 Section 09/H1)

[Free University of Bozen-Bolzano, Italy](#)

[Faculty of Computer Science](#)



- Member of IEEE, the Institute of Electrical and Electronics Engineers, Inc.
- Member of the Technical Committee on Machine Learning (TC-ML) of the IEEE Systems, Man, and Cybernetics (SMC) Society
- Fellow of the Higher Education Academy, U.K.

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Giuseppe Di Fatta has been Full Professor at the Faculty of Computer Science, Free University of Bozen-Bolzano since January 2022, where his teaching and research contributions are mainly in the areas of Data Science and Machine Learning. Previously, he was Full Professor and the Head of the Department of Computer Science, University of Reading (UK). In 1999, he was a research fellow at the International Computer Science Institute (ICSI), Berkeley, CA (USA); from 2000 to 2004, he was with the High-Performance Computing and Networking Institute of the National Research Council (Italy); from 2004 to 2006, he was with the University of Konstanz (Germany). His research interests include data mining algorithms and distributed and parallel computing. He served in the editorial board of the Elsevier Journal of Network and Computer Applications (2013-18) and is the co-founder and has been the chair of the IEEE ICDM Workshop on Data Mining in Networks since 2011. He has been Senior Program Committee member for prominent conferences in Data Science such as KDD and DSAA, and Workshops Chair of the IEEE ICDM 2020.

Prof. Di Fatta's research interests and expertise are in areas of Computer Science, such as Machine Learning, Data Science and Parallel and Distributed Computing, and in their intersection Big Data Analytics. He has also been developing data-driven multidisciplinary applications in scientific and industrial domains. In the area of Data Science and Big Data Analytics he has developed efficient and scalable parallel algorithm for frequent subgraph mining, space partitioning techniques for efficient classification and clustering algorithms for Big Data and data streams, efficient regression methods, etc. He was one of the authors of the first release (2006) of KNIME, a leading data science and machine learning platform. He has applied data science methods to a number of scientific domains, such as chemoinformatics, bioinformatics, neuroscience, digital marketing, accounting, etc. Prof. Di Fatta has over 120 publications to his credit. He has provided professional consultancies in the area of Data Science and Machine Learning, contributed to several research projects, led a number of successful Knowledge Transfer Partnerships projects on Big Data Analytics and Data Science, and has recently been contributing to two large European H2020 projects and an industrial research project (Innovate UK Smart Grant) for the development of an AI/ML enabled risk assessment platform to reduce fraud in the National Health Service (NHS).

Education and Qualifications

April 2015	Certificate of "Development Programme in First Line Management", Institute of Leadership and Management (ILM), Reading, UK.
Dec. 2009	Postgraduate Certificate in "Academic Practice", University of Reading, UK.
Jan. 2002	Doctor of Philosophy in "Electronic, Computer and Telecommunications Engineering", University of Palermo, Italy.
Nov. 1995	Integrated Masters ('Laurea' Degree) in "Electronic Engineering" (spec. in Computer Science), University of Palermo, Italy. (Grade: <i>Summa cum Laude</i>).

Previous Appointments

2016-2021	Head of Department of Computer Science, University of Reading, UK
2013-2021	Full Professor and Associate Professor, University of Reading, UK
2006-2013	Lecturer (Assistant Professor), University of Reading, UK
2004-2006	Visiting scientist and lecturer, University of Konstanz, Germany
2000-2004	Researcher (permanent contract), High Performance and Computing Institute (ICAR), National Research Council (CNR), Italy

1998-1999 Research Fellow (1-year contract), International Computer Science Institute (ICSI), Berkeley, CA, USA

Aug.-Nov. 1998 Research Assistant, Institute for Computer Communications and Applications, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

1996-1998 Research Assistant, Computer Networks Study Centre, Italian National Research Council, Italy

Leadership and managerial roles

- Head of Department, 2016-21
 - o Established a new Department and appointed 15 permanent academic and admin staff members.
 - o Led the development of two NUIST Academy programmes (BSc Data Science and MSc Data Science) approved by the Chinese MoE, respectively, in 2019 and in 2021.
- School Director of Postgraduate Taught Studies, 2015-16
- Programme Director of the MSc Data Science and Advanced Computing/Advanced Computer Science, 2013-16
- Member of the School Internationalisation work-group, 2011-14
- Departmental Study Abroad and Erasmus Coordinator, 2010-13
- UG School Admission Tutor, 2010-11
- Deputy UG School Admission Tutor, 2008-10
- Member of the School IT and Technical Committee (SITTC), 2009-10
- Internal examiner for UG programmes, 2009-11

Previous Teaching Activities

University of Reading, UK

- Data Science Tools and Algorithms
- Data Analytics and Mining
- a 2-day intensive training course on Data Science with KNIME for the MSc Finance and Financial Technology, Henley Business School (HBS)
- Java Programming
- C/C++ Programming

University of Konstanz, Germany

- Distributed Data Mining
- Algorithms in Data Mining
- Large-scale Computing for Data Mining
- Mining in Molecular Databases

University of Palermo, Italy

- Computer Networks
- Computer Programming

Other Professional Activities

Journal Paper

Reviewer

- Data Mining and Knowledge Discovery (DAMI), Springer
- Journal of Expert Systems with Applications, Elsevier
- IEEE Transactions on Parallel and Distributed Systems
- Journal of Parallel and Distributed Computing, Elsevier
- Journal of Network and Computer Applications, Elsevier
- Data & Knowledge Engineering, Elsevier
- Journal of Computing, Springer
- Journal of Network and Systems Management, Springer
- Journal of Parallel and Distributed Computing, Elsevier
- Simulation Modelling Practice and Theory, Elsevier
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on System, Man, and Cybernetics – Part B
- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Haptics
- IEEE Communications Letters
- Journal of Computer Communications, Elsevier
- Journal of Graph Algorithms and Applications
- International Journal of Approximate Reasoning

- Grant applications reviewer
- EPSRC Peer Review Associate College member since 2016.
 - Reviewer for MRC grant proposal related to Data Science, 2016.
 - Reviewer for BBSRC grant proposal related to Computer Science, 2014.
 - Member of the Computer Science ad hoc RTI Review Committee, Computer Science Evaluation Group, Natural Sciences and Engineering Research Council of Canada (NSERC), 2013-15.
 - Reviewer (category: Bioinformatics) for the Netherlands Organisation for Scientific Research (NWO), 2008.
- Editorial Activity
- Associate Editor of the Elsevier Journal of Network and Computer Applications (JNCA) 2013-2018.
 - Guest Editor of a special issue on "Applications of Big Data in Social Sciences", IEEE Access, a Multidisciplinary Open Access Journal (Submission Deadline: 31 October 2018)
 - Guest Editor of a special issue on "Cyber-physical Systems (CPS), Internet of Things (IoT) and Big Data" of the Elsevier Journal of Future Generation Computer Systems, 75, 82-84, 2017.
 - Guest Editor of a special issue on "Engineering Future Interoperable and Open IoT Systems" of Elsevier JNCA, V.81, 1 March 2017.
 - Guest Editor of the Journal Special Issue on Data Mining in Networks, JNSM Springer, April 2014, Volume 22, Issue 2.
 - Member of the Editorial Advisory Board for the book on "Handbook of Research on P2P and Grid Systems for Service-Oriented Computing: Models, Methodologies and Applications", Information Science Reference (formerly Idea Group Reference, an imprint of IGI Global), 2009.
- Conference Chair and Organizer
- **IEEE ICDM general Workshops Chair**, the 20th IEEE International Conference on Data Mining, Sorrento, Italy, Nov. 17-20, 2020.
 - Track **vice-chair** for Data Science, HiPC 2019 - the 26th IEEE Int.l Conference on High Performance Computing, Data, and Analytics, Hyderabad, India.
 - **Funder and co-chair** of the IEEE ICDM Workshop on Data Mining in Networks (DaMNet) since 2011: the 9th edition was located in Beijing, China, in 2019.
 - **General Chair** (Windsor, UK, 2015) and **Co-Chair** (2016-2019) of the International Conference on Internet and Distributed Computing Systems.
 - **Track Chair** of the 10th Int.l Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC), track on "data intensive computing, data mining, semantic web and information retrieval", Krakow, Poland, 4-6 Nov. 2015.
 - **Program Chair** of the 7th International Conference on Internet and Distributed Computing Systems (IDCS 2014).
 - **Organiser** of a PhD Summer School, funded by the British Council as Erasmus Intensive Programme, Cumberland Lodge, Windsor, UK, Aug.5-16, 2013.
 - **Co-organiser** of the 1st KNIME User Day UK, University of Westminster, London, June 25th, 2013. (KNIME is a popular open source data mining developing environment, originally developed at the University of Konstanz).
 - **Organiser and coordinator** of the PhD Summer School on "The Future Internet: Moving Social and Mobile", Erasmus Intensive Programme, British Council, Cumberland Lodge, Windsor, UK, Aug. 5-16, 2013.
 - **Organiser and co-chair** of the IEEE CloudCom 2012 Workshop on Data Analytics and Mining in the Cloud (DaMiC), Taipei, Taiwan, Dec. 2012.
 - **General co-chair** of the International Conference on Advances in Peer-to-Peer Systems (AP2PS), November 20-25, 2011, Lisbon, Portugal.
 - **Co-organizer** of the track "High Performance Networks", 16th International Euro-Par Conference, Ischia, Italy, Sept. 2010.
 - **Session chair** at the IEEE International Conference on Scalable Computing and Communications, Bradford, UK, July 2010.
 - **Session chair** at the IEEE Symposium on Computational Intelligence and Data Mining, Nashville, USA, March 2009.
 - **Organizer and co-chair** of the International Workshop on Distributed Data Mining (DDM-06) in conj. with the 17th European Conference on Machine Learning and the 10th European Conference on Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), Berlin (D), Sept. 2006.
 - **Area chair** (Distributed Computing) of the 2nd International Symposium on Computational Life Science, Cambridge University, UK, Sept. 2006.
 - **Organizer and co-chair** of the 1st International Workshop on Distributed Computational Life Science, in conjunction with the 1stInt.l Symposium on

Invited presentations

- Computational Life Science, Konstanz, Germany, Sept. 2005.
- **Local organizer** of the European School on Intelligent Data Analysis (IDA2000), Palermo, 18-22 Sept. 2000, 5th EU Framework Program, co-organized by University of Leiden (NL), University of Palermo (Italy), ICAR-CNR (Italy).
- Invited keynote presentation on “Multi-Task Deep Learning” at the 40th SGAI Int.l Conference on Artificial Intelligence, Cambridge, UK, 15 Dec. 2020.
- Invited keynote presentation at the International Conference on Computational Intelligence and Data Engineering, Hyderabad, India, 9 Aug. 2020.
- Invited seminar on “Artificial Intelligence, Machine Learning and Data Science” at World of Work Conference, Henley Business School, 12 Sept 2019.
- Invited seminars at the 2nd Advanced Course on Data Science & Machine Learning, Certosa di Pontignano, Siena, Italy (survey of data science platforms, training sessions on KNIME, a session on predictive analytics from MRI brain images for Alzheimer’s disease diagnosis), July 15-19, 2019.
- Invited talk on “Introduction to Artificial Intelligence” at the Thames Valley Artificial Intelligence (TVAI) meetup, Reading, Berkshire, UK, May 16, 2019.
- Invited seminar at Computer Science and Mathematics Seminars, University of Stirling, UK, on “The Epidemic Paradigm for Decentralised Communication and Computing”, Nov. 2, 2018.
- Invited seminar at the EURO-PAR 2018 workshop on Parallel and Distributed Computing for Life Sciences (PDCLifeS), August 28, 2018, Torino, Italy
- Invited keynote presentation on "Data-driven knowledge discovery from Brain Imaging of Alzheimer’s disease patients", IEEE ICMLC 2017, 10 July 2017, Ningbo, China.
- Invited seminar on "Creativity: Human vs Artificial Intelligence" at "A Journey to Creative Research" event, Shenzhen University, Shenzhen, China, 7 July, 2017.
- Invited seminar on "Data-driven Knowledge Discovery of Atypical Brain States", UK Symposium on Knowledge Discovery and Data Mining, SGAI - Specialist Group on Artificial Intelligence, British Computer Society, 21 March 2016.
- Invited presentation on "Capturing Wellbeing Data-A Data-driven Paradigm Shift", Student Wellbeing in Tertiary Education- Policy in Practice Workshop, University of Reading, June 15, 2015.
- Invited presentation on "Deciphering Social Media Messages for the UK General Election 2015" at the Workshop on “Big Social Data: Interdisciplinary Analytics”, University of Reading, April 24, 2015.
- Invited seminar, IEEE UK & Ireland Signal Processing Chapter seminar on “Epidemic Protocols for Extreme-scale Computing”, Faculty of Technology, De Montfort University, Leicester, UK, Nov. 19, 2014.
- Invited keynote presentation on “Epidemic Protocols for Extreme-scale Computing” at the 7th International Conference on Internet and distributed Computing Systems (IDCS), 22-24 Sept., 2014, Calabria, Italy.
- Invited keynote presentation on “Epidemic Data Mining: Global Knowledge without Global Communication” at the HiBB Workshop, Euro-Par, Aachen, Germany, August 26-30, 2013.
- Invited presentation on “Extreme Data Mining” at the *Dagstuhl Seminar* (#13251) on “Parallel Data Mining”, June 16-21, 2013.
- Invited presentation on “KNIME as a Teaching Tool in Higher Education” at the 1st KNIME User Day UK, June 25th 2013, University of Westminster, London.
- Invited keynote presentation on “*Epidemic Protocols in P2P Computing*”, *Int.l Conf. on Advances in Peer-to-Peer Systems*, Nov. 20-25, 2011, Lisbon, Portugal.
- Invited presentation on "*Data Mining for the Drug Discovery process*", at *Vertex Pharmaceuticals*, Oxfordshire, 10 March 2009.
- Invited half-day tutorial on ‘*Distributed Data Mining*’ at ACAI-05, Advanced Course on Knowledge Technologies, at the Jozef Stefan Institute, Ljubljana (Slovenia), June 27 – July 8, 2005.
- Invited tutorial presentation on ‘*Distributed Association Rule Mining*’ at the summer school of the Ph.D. Program in Computer and Information Science of the University of Konstanz, St. Vigil, Italy, 18 Sept. 2004.
- Invited half-day tutorial on ‘*Active Networks*’ at MILCOM 2002, the IEEE Military Communications Conference, Anaheim, CA, USA, 9 Oct. 2002.
- Half-day report presentation on ‘Active Networks’ at Alcatel TWID in Stuttgart, Germany, 9 March 2001