

Alessandro Checco

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Education

- Ph.D. in Mathematics, [Hamilton Institute](#) Feb 2015
Design of decentralised algorithms applied to channel/code selection and convex optimisation for throughput fairness of 802.11 networks
- M.Sc. in Mathematical Engineering, University of Roma "Tor Vergata" 2010
110/110 with great distinction. Thesis on Monte Carlo Markov Chain methods for the approximate solutions of feature selection problems
- Erasmus Scholarship, Universiteit Gent, Department of Telecommunications 2009
Queueing Behaviour of Statistical Multiplexer with Spacing
- B.Sc. in Mathematical Engineering, University of Roma "Tor Vergata" 2007
110/110 with great distinction. Thesis on Wavelet analysis for recognition of form document images with complicated background

Research Experience

- Information School, University of Sheffield, Dr. Gianluca Demartini 2017 – present
Research Associate on the H2020-funded project FashionBrain on Crowsourcing and recommender systems
- Information School, University of Sheffield, Dr. Gianluca Demartini 2016
Research Associate on the EPSRC-funded project BetterCrowd on Crowsourcing and recommender systems
- Science Foundation Ireland and Trinity College Dublin, Prof. Doug Leith 2016
Recipient of Technology Innovation Development Award (TIDA) 2016 on Privacy issues in recommender systems and probabilistic matrix factorisation
- Statistics and Computer Science Department, Trinity College Dublin, Prof. Doug Leith 2015
Postdoctoral Researcher on Privacy issues in recommender systems and probabilistic matrix factorisation

Selected Publications

Google Scholar ID: [crhkrNcAAAAJ](#)

- [1] **A. Checco** and G. Demartini, "Pairwise, magnitude, or stars: What's the best way for crowds to rate?" *ArXiv preprint arXiv:1609.00683*, 2016. [Online]. Available: <https://arxiv.org/pdf/1609.00683>.
- [2] **A. Checco**, G. Bianchi, D. J. Leith, "Blc: Private matrix factorization recommenders via automatic group learning," *ACM Transactions on Privacy and Security (TOPS)*, (accepted for publication), 2017, (accepted for publication). [Online]. Available: <https://arxiv.org/pdf/1509.05789>.
- [3] **A. Checco** and D. J. Leith, "Learning-based constraint satisfaction with sensing restrictions," *IEEE Journal of Selected Topics in Signal Processing*, vol. 7, pp. 811–820, 2013. [Online]. Available: <http://arxiv.org/pdf/1210.7156>.
- [4] —, "Fast, responsive decentralised graph colouring," *ArXiv preprint arXiv:1405.6987*, 2014. [Online]. Available: <https://arxiv.org/pdf/1405.6987>.
- [5] —, "Fair virtualisation of 802.11 networks," *IEEE/ACM Transactions on Networking*, vol. to appear, 2013. [Online]. Available: http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6689352.
- [6] —, "Proportional fairness in 802.11 wireless LANs," *IEEE Communications Letters*, vol. 15, no. 8, pp. 807–809, 2011. [Online]. Available: <http://www.hamilton.ie/net/single-hop-propfair.pdf>.

- [7] B. Bellalta, A. Faridi, J. Barcelo, **A. Checco**, P. Chatzimisios, "Channel bonding in short-range WLANs," in *European Wireless*, 2014. [Online]. Available: <http://www.tecn.upf.es/~bbellalt/ChannelBondingShortRangeWLANs.pdf>.
- [8] B. Bellalta, A. Zocca, C. Cano, **A. Checco**, J. Barcelo, A. Vinel, "Throughput analysis in CSMA/CA networks using continuous time markov networks: A tutorial," *ArXiv preprint arXiv:1404.0180*, 2014. [Online]. Available: <http://arxiv.org/pdf/1404.0180>.
- [9] **A. Checco**, C. Lancia, D. J. Leith, "Using crowd sourcing for local topology discovery in wireless networks," *ArXiv preprint arXiv:1401.1551*, 2014. [Online]. Available: <http://arxiv.org/pdf/1401.1551>.
- [10] **A. Checco**, R. Razavi, D. J. Leith, H. Claussen, "Self-configuration of scrambling codes for WCDMA small cell networks," in *IEEE 23rd International Symposium on Personal Indoor and Mobile Radio Communications (PIMRC)*, IEEE, 2012, pp. 149–154. [Online]. Available: <http://www.hamilton.ie/net/pimrc2012.pdf>.
- [11] B. Bellalta, **A. Checco**, A. Zocca, J. Barcelo, "On the interactions between multiple overlapping WLANs using channel bonding," *IEEE Transactions on Vehicular Technology*, vol. 65, no. 2, pp. 796–812, 2016.

Industry Experience

- o Intern, [Bell Laboratories Ireland](#) 2011 – 2012
 - Decentralised algorithms design for scrambling code selection in femtocell networks

Skills

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| Languages | Bash, C, C++, CSS, Matlab, JavaScript, Fortran, HTML, \LaTeX , <i>Mathematica</i> , Python, R |
| Frameworks | Spark, Cloudera, Pandas, NumPy, SciPy, SimPy, scikit-learn |
| Algorithm design | Design, convergence rate and complexity analysis of decentralised algorithms on graphs |
| Convex optimisation | Convex optimisation, with application to discrete problems. Numerical methods for approximate solution of optimisation problems |
| Data Mining | Monte Carlo Markov chains techniques for data mining and feature selection |
| Privacy in recommender systems | Probabilistic matrix factorisation applied to recommender systems, with focus on privacy issues |
| Simulators | Event-based simulators design for wireless network analysis |
| Statistical inference | Bayesian modelling and exploratory data analysis, with focus on big data |