Alessandro Checco

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Education

- Ph.D. in Mathematics for Future Wireless Networks, Hamilton Institute Apr 2010 – Feb 2015
  Design of decentralised algorithms applied to channel/code selection
  and convex optimisation for throughput fairness of 802.11 networks
- Internship on Wireless Networking, Bell Laboratories Ireland 2011 – 2012
  Research on small cell networks with particular interest in scrambling code selection
- 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, Univeriteit Gent, Department of Telecommunications 2009
  Queuing 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

Selected Publications

Google Scholar ID: crhkrNcAAAAJ

[1] B. Bellalta, A. Faridi, J. Barcelo, **A. Checco**, P. Chatzimisios, "Channel bonding in short-range WLANs," in *European Wireless 2014*, 2014. [Online]. Available: http://www.tecn.upf.es/~bbellalt/ChannelBondingShortRangeWLANs.pdf.

[2] 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.

[3] **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.

[4] **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.

[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] **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.

[8] **A. Checco** and D. J. Leith, "Fast, responsive decentralised graph colouring," *ArXiv preprint arXiv:1405.6987*, 2014.

[9] B. Bellalta, **A. Checco**, A. Zocca, J. Barcelo, "On the interactions between multiple overlapping wlans using channel bonding," *IEEE Transactions on Vehicular Technology*, 2015, accepted for publication.

Skills

Languages	Bash, C, C++, CSS, Matlab, JavaScript, Fortran, HTML, LaTeX, *Mathematica*, 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, applied to medical diagnostic and artificial olfaction.
Privacy in recommender systems	Probabilistic matrix factorisation applied to recommender systems, with focus on privacy issues.
Simulatots	Event-based simulators design for wireless network analysis.
Statistical inference	Bayesian modelling and exploratory data analysis, with focus on big data.