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Generated on February 17, 2022

Education

- Fellowship of Higher Education, The University of Sheffield 2020
Higher Education Academy
- Ph.D. in Mathematics, Hamilton Institute 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
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

Research Experience

- Information School, University of Sheffield, Dr. Gianluca Demartini 2017 – 2018
Research Director of 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, L. Bracciale, D. J. Leith, and G. Bianchi, "Opennym: Privacy preserving recommending via pseudonymous group authentication," *Security and Privacy*, e201, 2021.
- [2] H. Xie, A. Checco, and E. D. Zamani, "Design principles and a conceptual framework for crowd teamwork systems," 2021.
- [3] J. Bates, A. Checco, and E. Gerakopoulou, "Worker perspectives on designs for a crowdwork co-operative," in J. Hepp and L. Kramp, Eds. Palgrave, forthcoming, ch. The Ambivalences of Data Power: New perspectives in critical data studies.
- [4] A. Checco, L. Bracciale, P. Loreti, S. Pinfield, and G. Bianchi, "Ai-assisted peer review," *Humanities and Social Sciences Communications*, vol. 8, no. 1, pp. 1–11, 2021. [Online]. Available: <https://www.nature.com/articles/s41599-020-00703-8>.

- [5] P. Abbott, A. Checco, and D. Polese, "Smart farming in sub-saharan africa: Challenges and opportunities.," in *SENSORNETS*, 2021, pp. 159–164. [Online]. Available: <https://www.scitepress.org/Papers/2021/104167/104167.pdf>.
- [6] A. Checco and D. Polese, "Internet of trees: A vision for advanced monitoring of crops.," in *SENSORNETS*, 2020, pp. 182–186. [Online]. Available: <https://www.scitepress.org/Papers/2020/93688/93688.pdf>.
- [7] S. Fan, U. Gadiraju, A. Checco, and G. Demartini, "Crowdco-op: Sharing risks and rewards in crowdsourcing," *Proceedings of the ACM on Human-Computer Interaction*, vol. 4, no. CSCW2, pp. 1–24, 2020. [Online]. Available: https://www.researchgate.net/profile/Ujwal-Gadiraju/publication/344547725_CrowdCO-OP_Sharing_Risks_and_Rewards_in_Crowdsourcing/links/5f7f63a0299bf1b53e1832f9/CrowdCO-OP-Sharing-Risks-and-Rewards-in-Crowdsourcing.pdf.
- [8] L. Han, A. Checco, D. Difallah, G. Demartini, and S. Sadiq, "Modelling user behavior dynamics with embeddings," in *Proceedings of the 29th ACM International Conference on Information & Knowledge Management*, 2020, pp. 445–454. [Online]. Available: <https://dl.acm.org/doi/abs/10.1145/3340531.3411985>.
- [9] A. Checco, J. Bates, and G. Demartini, "Adversarial attacks on crowdsourcing quality control," *Journal of Artificial Intelligence Research*, vol. 67, pp. 375–408, 2020. [Online]. Available: <https://www.jair.org/index.php/jair/article/view/11332>.
- [10] L. Han, E. Maddalena, A. Checco, C. Sarasua, U. Gadiraju, K. Roitero, and G. Demartini, "Crowd worker strategies in relevance judgment tasks," in *Proceedings of the 13th International Conference on Web Search and Data Mining*, 2020, pp. 241–249. [Online]. Available: <https://dl.acm.org/doi/pdf/10.1145/3336191.3371857>.
- [11] R. Qarout, A. Checco, G. Demartini, and K. Bontcheva, "Platform-related factors in repeatability and reproducibility of crowdsourcing tasks," in *Proceedings of the AAAI Conference on Human Computation and Crowdsourcing*, vol. 7, 2019, pp. 135–143. [Online]. Available: <https://www.aaai.org/ojs/index.php/HCOMP/article/download/5264/5116/>.
- [12] L. Han, K. Roitero, U. Gadiraju, C. Sarasua, A. Checco, E. Maddalena, and G. Demartini, "The impact of task abandonment in crowdsourcing," *IEEE Transactions on Knowledge and Data Engineering*, 2019. [Online]. Available: <https://ieeexplore.ieee.org/document/8873609>.
- [13] C. Sarasua, A. Checco, G. Demartini, D. Difallah, M. Feldman, and L. Pintscher, "The evolution of power and standard wikidata editors: Comparing editing behavior over time to predict lifespan and volume of edits," *Computer Supported Cooperative Work (CSCW)*, vol. 28, no. 5, pp. 843–882, 2019. [Online]. Available: <https://link.springer.com/content/pdf/10.1007/s10606-018-9344-y.pdf>.
- [14] D. Difallah, A. Checco, G. Demartini, and P. Cudré-Mauroux, "Deadline-aware fair scheduling for multi-tenant crowd-powered systems," *ACM Transactions on Social Computing*, vol. 2, no. 1, pp. 1–29, 2019. [Online]. Available: <https://dl.acm.org/doi/pdf/10.1145/3301003>.
- [15] J. Otterbacher, A. Checco, G. Demartini, and P. Clough, "Investigating user perception of gender bias in image search: The role of sexism," in *The 41st International ACM SIGIR Conference on Research & Development in Information Retrieval*, ACM, 2018, pp. 933–936. [Online]. Available: <https://dl.acm.org/doi/10.1145/3209978.3210094>.
- [16] A. Checco, J. Bates, and G. Demartini, "All that glitters is gold—an attack scheme on gold questions in crowdsourcing (best paper award)," in *Proceedings of the AAAI Conference on Human Computation and Crowdsourcing*, Sheffield, 2018. [Online]. Available: <https://aaai.org/ocs/index.php/HCOMP/HCOMP18/paper/view/17925/16904>.
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- [18] A. Checco, C. Lancia, and D. Leith, "Updating neighbour cell list via crowdsourced user reports: A framework for measuring time performance," *Wireless Communications and Mobile Computing*, vol. 2018, 2018.
- [19] A. Checco, A. Roitero, E. Maddalena, S. Mizzaro, and G. Demartini, "Let's agree to disagree: Fixing agreement measures for crowdsourcing," in *Proceedings of the Fifth AAAI Conference on Human Computation and Crowdsourcing (HCOMP-17)*, AAAI Press, 2017, pp. 11–20.

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- [24] A. Checco, G. Bianchi, and D. J. Leith, "BLC: Private matrix factorization recommenders via automatic group learning," *ACM Transactions on Privacy and Security (TOPS)*, vol. 20, no. 2, 2017. [Online]. Available: <https://arxiv.org/pdf/1509.05789>.
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Industry Experience

- Intern, Bell Laboratories Ireland 2011 – 2012
 - Decentralised algorithms design for scrambling code selection in femtocell networks

Skills

Languages	Bash, C, C++, CSS, Matlab, JavaScript, Fortran, HTML, \LaTeX , <i>Mathematica</i> , Python, R
Frameworks	Spark, Cloudera, Pandas, NumPy, SciPy, SimPy, scikit-learn, keras, pymc3
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