

Matteo Ceccarello

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Education

- 2014–2017 **PhD**, *University of Padova*, Padova.
PhD in Computer Engineering
- 2011–2013 **M.S.**, *University of Padova*, Padova, *110/110 cum laude*.
Master of Science in Computer Engineering
- April 2013 **SWEB**, *University of Glamorgan*, Cardiff (UK).
LLP Erasmus Intensive Programme in “*Secure Web Applications: Best Practices for Protection and Development*”
- 2008–2011 **B.S.**, *University of Padova*, Padova, *109/110*.
Bachelor of Science in Information Engineering

Experience

- September 2019 – current **Assistant professor**, *Free University of Bozen*, Bozen, Italy.
- April 2018 – **Postdoc**, *IT University*, Copenhagen, Denmark.
- August 2019 Member of the project Scalable Similarity Search funded by the European Research Council. Main teacher of the *Applied Algorithms* and *Applied Statistics* course, and co-teacher of the *Practical Parallel and Concurrent Programming* course.
- March 2017 – **Postdoc**, *University of Padova*, Padova.
- March 2018 Research on distributed algorithms for computational geometry and clustering problems. Teaching assistant for the Big Data Computing course.
- Spring 2017 **Teaching Assistant**, *University of Padova*, Padova.
Data Mining course taught by Professor Andrea Pietracaprina. I gave lessons on using Apache Spark for Big Data processing.
- February–August 2016 **Visiting Research Scholar**, *Brown University*, Providence (RI–USA).
Member of the research group of Professor Eli Upfal, working on *diversity maximization*.
- 2014–March 2017 **PhD student**, *University of Padova*, Padova.
Research on parallel and distributed big-data algorithms, under the supervision of Professor Andrea Pietracaprina.
- 2011–2014 **WebQual research group**, *University of Padova*, Padova.
Work in the Web Quality research team. The goal is to perform a crawl of the Italian web in order to test and compare different ranking algorithms.

- May–August **Google Summer of Code 2013.**
2013 Development of tools for NASA Java PathFinder. Development of a tool to automatically generate model classes with behaviour for NASA Java PathFinder. The tool is described in the paper *Automated generation of model classes for Java PathFinder*.
- May–August **Google Summer of Code 2012.**
2012 Development of tools for NASA Java PathFinder. These tools are used to generate model classes stubs and to check existing ones. They are described in the paper *Tools to generate and check consistency of model classes for Java PathFinder*.

Awards

- 2019 **Best paper award**, *Similarity Search and Applications (SISAP19)*, Newark (NJ – USA).
Award for the paper *The role of local intrinsic dimensionality in benchmarking the nearest neighbor search*
- 2012 **Most impacting work on JPF**, *JPF Workshop ACM ASE*, Cary (NC–USA).
Award for the paper *Automated generation of model classes for Java PathFinder*

Program committees

- 2017 Workshop on Parallel and Distributed Data Mining
2018 Workshop on Parallel and Distributed Data Mining
2019 IEEE International Parallel and Distributed Processing Symposium
2019 European Symposium on Algorithms

Conference speaker

- 2015 SIAM Algorithm Engineering and Experiments
2016 IEEE International Parallel and Distributed Processing Symposium
2017 Very Large Databases conference
2018 International conference on Web Search and Data Mining

Languages

- Italian Native speaker
English Professional

Computer skills

- Programming languages Rust, Scala, Python, C++, Java, Scheme, Bash
Frameworks Apache Spark, Boost Graph Library, OpenMP, Timely Dataflow

Publications

- [1] Martin Aumüller and Matteo Ceccarello. Benchmarking nearest neighbor search: Influence of local intrinsic dimensionality and result diversity in real-world datasets. In *EDML@SDM*, volume 2436 of *CEUR Workshop Proceedings*, pages 14–23. CEUR-WS.org, 2019.

- [2] Martin Aumüller and Matteo Ceccarelo. The Role of Local Intrinsic Dimensionality in Benchmarking Nearest Neighbor Search. In *SISAP*, volume 11807 of *Lecture Notes in Computer Science*, pages 113–127. Springer, 2019.
- [3] Matteo Ceccarelo, Anne Driemel, and Francesco Silvestri. FRESH: Fréchet Similarity with Hashing. In *WADS*, volume 11646 of *Lecture Notes in Computer Science*, pages 254–268. Springer, 2019.
- [4] Matteo Ceccarelo, Andrea Pietracaprina, and Geppino Pucci. Solving k-center clustering (with outliers) in mapreduce and streaming, almost as accurately as sequentially. *PVLDB*, 12(7):766–778, 2019.
- [5] Matteo Ceccarelo, Andrea Pietracaprina, and Geppino Pucci. Fast coresets-based diversity maximization under matroid constraints. In *Proc. WSDM*, pages 81–89. ACM, 2018.
- [6] Matteo Ceccarelo, Carlo Fantozzi, Andrea Pietracaprina, Geppino Pucci, and Fabio Vandin. Clustering uncertain graphs. *PVLDB*, 11(4):472–484, 2017.
- [7] Matteo Ceccarelo, Andrea Pietracaprina, Geppino Pucci, and Eli Upfal. Mapreduce and streaming algorithms for diversity maximization in metric spaces of bounded doubling dimension. *PVLDB*, 10(5):469–480, 2017.
- [8] Matteo Ceccarelo, Andrea Pietracaprina, Geppino Pucci, and Eli Upfal. A Practical Parallel Algorithm for Diameter Approximation of Massive Weighted Graphs. In *Proc. IPDPS*, pages 12–21. IEEE, may 2016.
- [9] Matteo Ceccarelo, Andrea Pietracaprina, Geppino Pucci, and Eli Upfal. Space and Time Efficient Parallel Graph Decomposition, Clustering, and Diameter Approximation. In *Proc. SPAA*, pages 182–191. ACM, 2015.
- [10] Matteo Ceccarelo and Francesco Silvestri. Experimental Evaluation of Multi-Round Matrix Multiplication on MapReduce. In *Proc. ALENEX*, number January, pages 119–132. ACM, 2015.
- [11] Matteo Ceccarelo and Oksana Tkachuk. Automated generation of model classes for Java PathFinder. *ACM SIGSOFT Software Engineering Notes*, 39(1):1–5, feb 2014.
- [12] Matteo Ceccarelo and Nastaran Shafiei. Tools to generate and check consistency of model classes for Java PathFinder. *ACM SIGSOFT Software Engineering Notes*, 37(6):1, nov 2012.