

## FABRIZIO LECCI

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### EXPERTISE

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data science    statistics    machine learning    analytics  
team leadership    strategy    people development    R, Python, SQL, git

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### EDUCATION

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Carnegie Mellon University (Pittsburgh, PA)

**Ph.D. in Statistics** (2015) and **M.S. in Statistics** (2012)

Collegio Carlo Alberto (Moncalieri, Italy)

**M.A. in Statistics and Applied Mathematics** (2011)

University of Torino (Torino, Italy)

**B.A. in Mathematics** (2009) and **M.A. in Finance & Insurance** (2011)

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### EXPERIENCE

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**Columbia University** (New York, NY)

2023–Present

- Associate Professor of Practice

I joined the Industrial Engineering and Operations Research Department, in the School of Engineering, as an Associate Professor of Practice. My goal in this role is to help bridge the gap between industry and academia and bring to class years of experience working with Data.

**Data Captains** (New York, NY)

2022–Present

- Co-Founder

DataCaptains.com is a boutique consulting firm. We are experts in Data Engineering, Statistics, Analytics, Data Science & Machine Learning. From data strategy to technical projects, our team helps our clients sail through all their data challenges.

**Duke University, Fuqua School of Business** (Durham, NC)

2018, 2019, 2022

- Adjunct Professor

Taught *Statistics & Probability* for the MBA program at the Duke's Fuqua School of Business.

**Better.com** (New York, NY)

2020–2021

- Director, Data Science

I built and led the Data Science team at Better.com, working on the technology that makes the home buying process faster, cheaper, easier.

**Uber** (New York, NY)

2017–2020

- Data Science Manager, UberEats

I helped solve the most challenging problems related to Uber's initiatives in the logistics delivery space (Uber Eats). These problems include personalized search and recommendation, delivery prediction, demand and supply forecasting, dynamic pricing, dispatch and routing optimization, and more. Individual Contributor at the Senior DS level before formally transitioning to a managerial role.

**New York Life Insurance Company** (New York, NY)

2015–2017

- Senior Data Scientist

I led projects to build the first generation of mortality tables that benefit from the combination of predictive modeling and actuarial smoothing using survival models.

**INRIA - Geometrica Group** (Paris, France)

March–May 2014

- Research Assistant. Collaborated with the Geometrica Group on the development of subsampling techniques for the methods of Topological Data Analysis.

**Carnegie Mellon University Qatar** (Doha, Qatar), May–July 2013

- Instructor. Held two courses (*Statistical Reasoning* and *Probability and Statistics for Business Applications*) for students majoring in Business Administration and Information Systems.

**Carnegie Mellon University** (Pittsburgh, PA) 2011–2015

- Research Assistant
  - Topological Data Analysis (TDA) / Spatial Statistics
  - Alzheimer’s Disease research, in collaboration with the Dept of Psychology at the Univ. of Pittsburgh
  - Software development: author of the CRAN R package *TDA* for Topological Data Analysis.
- Teaching Assistant. undergraduate level (Experimental Design for Social Sciences) and MBA level (Quantitative Methods for Finance).

## PUBLICATIONS

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- Popov M., Molsberry S., Lecci F., Junker B., Kingsley L., Levine A., Martin E., Miller E., Munro C., Ragin A., Seaberg E., Sacktor N., Becker J., (2020), **Brain structural correlates of trajectories to cognitive impairment in men with and without HIV disease**, *Brain imaging and behavior*, 14(3), 821-829.
- Adhikari, S., Lecci, F., Junker, B., and Tibshirani, R.J., (2019), **High-dimensional Longitudinal Classification with the Multinomial Fused Lasso**, *Statistics in medicine* (2019). (arXiv:1501.07518)
- Popov, M., Molsberry, S., Lecci, F., Junker, B., Kingsley, L., Levine, A., Martin, E., Miller, E., Munro, C., Ragin, A., Seaberg, E., Sacktor, N., Becker, J., (2019) **Brain Structural Correlates of Cognitive Trajectories in HIV Disease**, *Brain imaging and behavior* (2019): 1-9.
- Chazal, F., Fasy, B., Lecci, F., Michel, B., Rinaldo, A., and Wasserman, L. (2018), **Robust Topological Inference: Distance To a Measure and Kernel Distance**, *Journal of Machine Learning Research (JMLR)*, 18, 1–40. (arXiv:1412.7197) Chicago
- Chazal, F., Fasy, B.T., Lecci, F., Michel, B., Rinaldo, A., and Wasserman, L., (2015), **Subsampling Methods for Persistent Homology**, *the Proceedings of the 32nd International Conference on Machine Learning (ICML)*, 214–2151. (arXiv:1406.1901)
- Fasy, B.T., Kim, J., Lecci, F., and Maria, C. (2015), **Introduction to the R Package TDA**. (arXiv:1411.1830)
- Becker, J.T., Junker, B., Kuller, L., Lecci, F. and Lopez, O., (2015), **Empirically Derived Trajectories to Dementia Over 15 Years of Follow-Up Identified Using Mixed Membership Models**, *American Journal of Epidemiology*: kwv051.
- Molsberry, S., Lecci, F., Kingsley, L., Junker, B., Reynolds, S., Goodkin, K., Levine, A., Martin, E., Miller E., Munro, C., Ragin A., Sacktor N., Becker, J., (2015), **Mixed Membership Models Identify Risk Factors to Trajectories for Cognitive Impairment in the Multicenter AIDS Cohort Study**, *Journal of the International AIDS Society*, 29.6: 713-721.
- Fasy, B.T., Lecci, F., Rinaldo, A., Wasserman, L., Balakrishnan, S. and Singh. A., (2014), **Confidence Sets for Persistence Diagrams**, *The Annals of Statistics*, 42(6), 2301–2339. (arXiv:1303.7117)
- Lecci, F., Rinaldo, A. and Wasserman, L., (2014), **Statistical Analysis of Metric Graph Reconstruction**, *Journal of Machine Learning Research (JMLR)*, 15, 3425–3446. (arXiv:1305.1212)
- Lecci, F., (2014) **An Analysis of Development of Dementia through the Extended Trajectory Grade of Membership Model**, in Airoldi, E., Blei, D., Erosheva, E., and Fienberg, S.E., (Eds.), *Handbook of Mixed Membership Models and Their Applications*, Chapman & Hall.
- Chazal, F., Fasy, B.T., Lecci, F., Rinaldo, A., and Wasserman, L., (2014), **Stochastic Convergence of Persistence Landscapes and Silhouettes**, in *The Proceedings of the 30th Symposium of Computational Geometry (SoCG)*, pp. 474 – 483. (arXiv:1312.0308)
- Chazal, F., Fasy, B.T., Lecci, F., Rinaldo, A., Singh, A. and Wasserman, L., (2013), **On the Bootstrap for Persistent Diagrams and Landscapes**, *Modeling and Analysis of Information Systems*, 20:6, 96–105. (arXiv:1311.0376)