

LESLIE O'BRAY

Curriculum vitae

✉ leslieobray@gmail.com 📞 Leslie O'Bray
🏠 leslieobray.com ☎ +41 078 694 09 81
🌐 lobray 📍 Elsastrasse 15, 8004 Zürich, Switzerland

ACADEMIC & PROFESSIONAL EXPERIENCE

- 10/2019– **PhD Candidate** in the *Machine Learning and Computational Biology Lab* of Prof. Dr. Karsten Borgwardt, ETH Zurich, Switzerland.
I am developing machine learning methods for graph classification, namely *graph kernels* and *graph neural network* methods, as well as exploring how approaches from the field of topological data analysis can be integrated into them. While I am particularly interested in applications in bioinformatics and personalized medicine, the methods I am developing are applicable across domains.
- 09/2018-03/2019 **Research Assistant** in the *Social Network Lab* for Prof. Dr. Ulrik Brandes, Department of Humanities, Social and Political Sciences, ETH Zürich, Switzerland.
I designed and executed data collection using the Twitter API to reconstruct the Swiss Twitter user graph, to enable research on influence propagation on a social graph.
- 01/2015–01/2017 **Global Business Product Lead**, Google Search Ads, Small & Medium Businesses, Google Inc., California
I was responsible for designing and executing the global sales strategy for two multi-million dollar products (Google Shopping and Remarketing Lists for Search Ads), which included working cross-functionally with engineering, sales, customer service and marketing. I conducted extensive analysis on large-scale datasets to uncover hidden correlations and product deficiencies and presented findings to executive stakeholders to prioritize and business and product changes. I conducted additional analyses to identify revenue opportunities for the product (e.g. identifying signals for under-invested customers, market-level diagnosis of performance), set the corresponding targets for the sales team and provided weekly reporting.
- 01/2013–12/2014 **Product Specialist**, Google Search Ads, Google Inc., California
I worked as a product specialist alongside the Small and Medium Business sales team in North America. I contributed to the rollout of the biggest platform change in AdWords, which included training 300+ Google employees on the new product interface and features.
- 08/2011-12/2012 **Account Strategist**, Google Search Ads, Google Inc., California
I managed and strategically consulted for 300 small and mid-market businesses on their marketing strategies for Google Search, Display, Mobile and YouTube.

EDUCATION

- 2017-2019 **M.Sc. in Statistics** at ETH Zürich, Switzerland, final grade **5.7** (out of 6.0).
Thesis: *Learning Vector Representations of Graphs Using Recurrent Neural Network Autoencoders*
Advisers: Prof. Dr. Marloes Maathuis, Prof. Dr. Karsten Borgwardt, Dr. Bastian Rieck
- 2007-2011 **B.S. in Foreign Service** at Georgetown University, Washington D.C., final grade **3.7** (out of 4.0, top 10%).
Major: Science, Technology and International Affairs

PUBLICATIONS

In the publications below, the 'dagger' symbol, i.e. † indicates equal contribution.

- In press*
1. Karsten Borgwardt, Elisabetta Ghisu, Felipe Llinares-López, **Leslie O'Bray** and Bastian Rieck. *Graph Kernels: State-of-the-Art and Future Challenges*. To appear in Foundations and Trends in Machine Learning. Also available at [arXiv:2011.03854](https://arxiv.org/abs/2011.03854).
- 2020
2. Giulia Muzio†, **Leslie O'Bray**† and Karsten Borgwardt. *Biological Network Analysis with Deep Learning*. Briefings in Bioinformatics, 2020. <https://doi.org/10.1093/bib/bbaa257>

INTERNAL TALKS

- 2020 *Machine Learning on Graphs: A Brief Introduction*
Research groups Prof. Dr. Karsten Borgwardt & Prof. Dr. Barbara Treutlein, ETH Zurich, Switzerland
- 2019 *Learning Representations of Graphs Using RNN Autoencoders*
Research group Prof. Dr. Karsten Borgwardt, ETH Zurich, Switzerland

THESIS CO-SUPERVISION

- 2020 Philipp Nikolaus. *Graph Neural Tangent Kernels*
M.Sc. thesis, ETH Zurich

TEACHING EXPERIENCE

- 2018 *Applied Analysis of Variance and Experimental Design*, ETH Zurich
I was a teaching assistant and answered student questions in the exercise session.

SKILLS

- Strong knowledge of Python for data analysis (scikit-learn, numpy, pandas) and deep learning frameworks (PyTorch, TensorFlow)
- Strong knowledge of R for data analysis and visualization (ggplot) and SQL
- Working knowledge of the typesetting language \LaTeX and the version control system Git
- Strong writing and public speaking skills

REFERENCES

PROF. DR. KARSTEN BORGWARDT
Machine Learning and Computational Biology Lab
ETH Zurich, Switzerland
karsten.borgwardt@bsse.ethz.ch

DR. BASTIAN RIECK
Senior Assistant, Machine Learning and Computational Biology Lab
ETH Zurich, Switzerland
bastian.riek@bsse.ethz.ch

Further references and credentials are available on request.

Last updated on 9th December 2020.