

FEDERICO ERRICA

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Probabilistic Deep Learning for Graphs

EDUCATION

University of Pisa, Italy *November 2018 - February 2022*
Ph.D. *w. honors* in Computer Science
Title: **Bayesian Deep Learning for Graphs**
Supervised by Davide Bacciu and Alessio Micheli

University of Pisa, Italy *March 2018*
M.Sc. in Computer Science (110/110 Hons.)

University of Pisa, Italy *October 2015*
B.Sc. in Computer Science (110/110)

EXPERIENCE

NEC Laboratories Europe GmbH January 2022 - Present
Research Scientist *Heidelberg, DE*

University College London January 2021 - May 2021
Visiting Scholar *Virtual*

Facebook AI Research June 2019 - September 2019
Research Intern *London, UK*

Laife Reply March 2018 - October 2018
Machine Learning Researcher *Milano, IT*

SELECTED PUBLICATIONS

Errica, F. & Niepert, M. *Tractable Probabilistic Graph Representation Learning with Graph-Induced Sum-Product Networks* in **ICLR** (2024).

Errica, F. *On Class Distributions Induced by Nearest Neighbor Graphs for Node Classification of Tabular Data* in **NeurIPS** (2023).

Errica, F., Bacciu, D. & Micheli, A. PyDGN: a Python Library for Flexible and Reproducible Research on Deep Learning for Graphs. **Journal of Open Source Software** (2023).

*Castellana, D., *Errica, F., Bacciu, D. & Micheli, A. *The Infinite Contextual Graph Markov Model* in **ICML** (* **Equal Contribution**) (2022).

Errica, F., Bacciu, D. & Micheli, A. *Graph Mixture Density Networks* in **ICML** (2021).

Bacciu, D., Errica, F. & Micheli, A. Probabilistic Learning on Graphs via Contextual Architectures. **Journal of Machine Learning Research**. (**First Author**) (2020).

Bacciu, D., Errica, F., Micheli, A. & Podda, M. A Gentle Introduction to Deep Learning for Graphs. **Neural Networks** **129**. (**Equal Contribution**), 203–221 (2020).

Errica, F., Podda, M., Bacciu, D. & Micheli, A. *A fair comparison of graph neural networks for graph classification* in **ICLR** (**Equal Contribution**) (2020).

Bacciu, D., Errica, F. & Micheli, A. *Contextual Graph Markov Model: A Deep and Generative Approach to Graph Processing* in **ICML** (**First Author**) (2018).

MAIN GITHUB PROJECTS

PyDGN A Research Library for Deep Graph Networks	<i>Link</i>
gnn-comparison A Fair, Robust, and Reproducible comparison of Deep Graph Networks	<i>Link</i>
GMDN Graph Mixture Density Networks	<i>Link</i>
CGMM Contextual Graph Markov Model	<i>Link</i>

HONOURS AND AWARDS

ICLR 2022 Highlighted Reviewer Award Awarded by the Program Chairs for the reviews' quality	
HPC-Europa3 Transnational Access Project proposal selected for a visiting period at the University of Cambridge	
2nd place - Ilaria Castelli Award Best Master's Degree Thesis on Machine Learning and Pattern Recognition	<i>Link</i>
ICML 2018 Travel Award Grant by the International Machine Learning Society	

TALKS

University of Stuttgart Adaptive Message Passing for Graphs	<i>April 2024</i>
ESANN 2023 Introduction to Graph Representation Learning	<i>October 2023</i>
NEC Laboratories Europe GmbH Bayesian Deep Learning for Graphs	<i>July 2021</i>
IBM Graph Representation Learning: from Neural Beginnings to Probabilistic Perspectives	<i>April 2021</i>
Continual AI Presentation about our work on Catastrophic Forgetting for Deep Graph Networks	<i>April 2021</i>

ACTIVITIES

Reviewer TNNLS, TPAMI, TKDE, AI, ICML, ICLR, NeurIPS, IJCAI, AAAI, Neurocomputing, Scientific Reports, IJCNN, ESANN, ICANN	
Co-organizer of Special Sessions on Deep Learning for Graphs ICMLA 2024, IJCNN 2023, ESANN 2023/2022, LOD2022.	
Co-organizer of MLDM 2023/2022 (AIxIA) The Italian Workshop on Machine Learning and Data Mining	
Co-organizer of ESANN 2021 Special Session Complex Data: Learning Trustworthily, Automatically, and with Guarantees	

Teaching Assistant

Machine Learning

2020-2021

Computational Neuroscience

2019-2020

LANGUAGES

Italian

Native Speaker

English

Cambridge C2 Proficiency (CPE) - grade B (219/230)

German

A1 Level