

# Giulia Luise

## Curriculum Vitae

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**Very Short Intro:** I am a second year PhD student in Machine Learning at UCL in London. I like intersections of machine learning and optimal transport theory and so far I have focused on (regularized) OT distances as loss functions in supervised learning settings.

## Education

- Sept. 2017-present **PhD Student in Machine Learning**, *Computer Science Department, University College London, UK.*  
Research topic: interplay of Optimal Transport and Machine Learning.  
Advisors: Prof. Massimiliano Pontil, Dr. Carlo Ciliberto
- Oct. 2014-Sept. 2016 **Master of Science Degree in Mathematics**, *University of Pavia, Italy.*  
Dissertation Title: Contraction and regularizing effects for Markov semigroups in Hellinger and Hellinger-Kantorovich spaces  
Supervisor: Prof. Giuseppe Savaré  
Grade: 110/110 cum laude
- Mar. 2015-Aug. 2015 **Exchange Program**, *Humboldt Universität zu Berlin, Germany.*  
Courses: Algebraische Geometrie I, Differentialgeometrie II, Partielle Differentialgleichungen (PDEs).
- 2015, May 20 **First Level Diploma**, *Institute for Advanced Studies (IUSS), Pavia, Italy.*  
Dissertation title: Introduction to multidimensional Sobolev Spaces  
Supervisors: Prof. Pierluigi Colli, Prof. Franco Brezzi
- Oct. 2011-Sept. 2014 **Bachelor of Science Degree in Mathematics**, *University of Pavia, Italy.*  
Dissertation Title: Locally free sheaves on the projective line  
Supervisor: Prof. Maurizio Cornalba  
Grade: 110/110 cum laude
- Oct. 2011-July 2016 **Alumna**, *Institute for Advanced Studies (IUSS), Pavia, Italy.*

## Publications

- NeurIPS 2018 **Differential Properties of Sinkhorn Approximations for Learning with Wasserstein Loss**, *G. Luise, A. Rudi, M. Pontil, C. Ciliberto.*
- In preparation, around 25 pages **Contraction and Regularizing Properties of Heat Flows in Metric Measure Spaces**, *G. Luise, G. Savaré'.*

## Talks and Presentations

- June 2018 **Machine Learning Summer School - Buenos Aires**, *Poster: Optimal Transport and Structured Prediction.*

April 2017 **Invited speaker at Workshop on Optimal Transport and PDEs in Applied Sciences - L'Aquila, Italy.**

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## Teaching

2018-2019 **TA for COMP G13**, Advanced Method in Machine Learning, UCL.

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## Awards, Grants and Scholarships

2018 **Fondazione Grazioli prize**, Prize for Master dissertation.

2017 **UBI Banca Prize**, Best Graduate Student in Mathematics at University of Pavia.

2016 **Confindustria "Premio al merito scolastico"** .

2011-2016 **Five-year IUSS Scholarship.**

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## Languages and Coding skills

**Italian** Native

**English** C1 level, IELTS band 8

**Spanish** Fluent

**Programming skills:** Python, Matlab

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## Extracurricular Activity and Hobbies

2002-2011 **Piano Studies at Conservatory of Music.**

I have attended piano lessons for more than ten years; I took the following exams as external candidate:

- Music theory and solfeggio exam, at Conservatory 'G. Verdi' (Alessandria)
- Fifth year degree, History of Music, Complementary Harmony, Eight year degree, at Conservatory 'A. Boito' (Parma).

**Interest and hobby:** travelling, horse-riding