Lorenzo **Lupo**

PhD student in machine learning. My goal is to achieve great positive social impact by leveraging AI.

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Education

Laboratoire d'Informatique de Grenoble, team GETALP

PHD IN MACHINE LEARNING, SUPERVISED BY LAURENT BESACIER AND MARCO DINARELLI   *Jan 2020-present*
- Subject: Document-level Neural Machine Translation.

Politecnico di Milano

M.S. IN MANAGEMENT ENGINEERING: SOCIAL INNOVATION & ARTIFICIAL INTELLIGENCE - GRADE: 110/110 CUM LAUDE   *2016-2019*
- Main Courses: Artificial Intelligence, Deep Learning, Social Innovation, Policy Analysis, Business Management, Strategy&Innovation.
- MOOC: Machine Learning by the University of Washington; 4 courses: ML Foundations, Regression, Classification, Clustering.

École Centrale Paris

M.S. IN MATHEMATICAL ENGINEERING - GRADE: 3,53/4   *2014-2016*
- Awarded excellence scholarship by the Association des Centraliens.
- Main Courses: Advanced Statistics, Random Modelling, Graph Theory, Advanced Economics, Financial Risks Modelling.

Politecnico di Milano

B.S. IN MATHEMATICAL ENGINEERING - GRADE: 106/110   *2012-2014*
- Main Courses: Calculus, Advanced Calculus, Numerical Analysis, Statistics, Probabilities, Physics.

Job Experience

Indigo AI

MACHINE LEARNING ENGINEER INTERN   *Feb. 2019 - Jul. 2019*
- Researching and developing state-of-the-art natural language processing algorithms for Italian-speaking chatbots.
- Created a dataset for Italian grammatical error correction benchmarking and tested various spell checkers, e.g. Norvig, KenLM.
- Currently, working on a rnn-based language model and a language model-based grammatical error correction system.
- Main tools: PyTorch, NumPy, IBM Cloud.

Politecnico di Milano   *Code on GitHub*

DATA SCIENTIST - FREELANCER   *Aug. 2018 - Nov. 2018*
- Applied various clustering techniques to unveil socio-economical similarities between 37 developing countries.
- Worked on the integration of my analysis into a broader research project for Eni S.p.A., collaborating with various research teams
- Main tools: Numpy, pandas, scikit-learn.

European Investment Fund

DATA SCIENTIST INTERN   *Jun. 2016 - Dec. 2016*
- Designed various statistical procedures to assess the economic and social impact of EIF's programmes for SMEs.
- Built a user-friendly VBA-based library to implement and iterate these procedures in the years to come, exploiting the Orbis database.
- Assessed two major European investment programs, COSME and InnovFin, and reported the results to the European Commission.

Publications

Optimistic Policy Optimization via Multiple Importance Sampling   *Publication*

RESEARCH PROJECT FOLLOWED BY A PUBLICATION   *Sept 2018-Feb 2019*
- Designed and implemented a new class of algorithms to address the exploration-exploitation trade-off in policy search. The algorithms leverage multiple importance sampling and the principle of optimism in face of uncertainty to perform off-policy estimation of the expected return. Proved an upper bound to the regret of the algorithms.
- Evaluated the algorithms on benchmark tasks of varying difficulty.
- Research paper has been accepted for publication at ICML 2019 (top conference in machine learning).
- Main tools: TensorFlow, NumPy.

Skills & Activities

Languages	**Italian**: native; **English**: fluent (TOEFL ITP: 640/667); **French**: fluent (lived 2 years in Paris).
Computer skills	**Python** (PyTorch, TensorFlow, NumPy, pandas, scikit-learn), **LaTeX, Cloud Computing**(e.g. AWS),**Linux, VBA, SQL**.
Effective Altruism	Co-founder and organizer of the Effective Altruism movement Italian hub. EA donor since 2015.
AI for Social Good	Designed an AI app that helps people popping their filter bubble. Won the Call for Ideas launched by Nesta Italia.