

Giorgio Giannone

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github/georgosgeorgos

I am broadly interested in Probabilistic Machine Learning, Perception and Geometry, with a focus on **Conditional Latent Variable Models**, **Few-Shot Generation**, **Transfer Learning**, and **Diffusion Models**.

Education

PhD, Statistical Machine Learning

Technical University of Denmark, Lyngby, Denmark

- Few-Shot Generative Models

June 2020 - Present

– Supervisor: Ole Winther; Co-supervisor: Søren Hauberg

Master's Degree, Data Science

Sapienza University, Rome, Italy

- Visiting Student, New York University

Sept 2016 - Nov 2018

- Excellence Path & Summa Cum Laude

- Thesis: Multimodal Learning for Scene Understanding

– Supervisor: Aris Anagnostopoulos; External Supervisor: Boris Chidlovskii

Master's Degree, Mechanical Engineering

Sapienza University, Rome, Italy

- Summa Cum Laude

Sept 2014 - Jan 2017

- Thesis: Bubble Dynamics in Turbulent Shear Flows

– Supervisor: Carlo Massimo Casciola; Co-supervisor: Paolo Gualtieri

Bachelor's Degree, Mechanical Engineering

Sapienza University, Rome, Italy

- Thesis: Rapid Prototyping of Metallic Manufacturing

Sept 2009 - May 2014

Experience

Research Science Intern, IBM Research

Zurich, Switzerland

- Accelerated Discovery Team. Host: Matteo Manica

June 2022 - present

– Conditional Generative Models for Material Discovery

Applied Science Intern, Amazon AI

Cambridge & London, UK

- Alexa Team. Hosts: Emine Yilmaz, Yunlong Jiao

July 2021 - Oct 2021

– Domain Agnostic Subpopulation Generalisation

Research Engineer, NNAISENSE

Lugano, Switzerland

- Deep Learning Team. Manager: Jonathan Masci

Jan 2019 - Jan 2020

– Structured Latent Variable Models

Machine Learning Engineer, Pi Campus

Rome, Italy

- NLP for large scale data-driven early stage investing

Oct 2018 - Dec 2018

Research Intern, Naver Labs Europe

Grenoble, France

- Computer Vision Team. Host: Boris Chidlovskii

Feb 2018 - Aug 2018

– Deep Learning for Scene Understanding

Intern, New York University

New York, USA

- Visualization and Data Analytics Research Center. Host: Enrico Bertini

Sept 2017 - Jan 2018

– Built an interactive entity retrieval tool to investigate 10M documents

Co-Founder, SecretAIry (formerly GAIa)

Rome, Italy

- Chatbots to enhance Workplace Communication

July 2017 - Jan 2019

- Selected among 100+ startups to participate in the EnLabs Incubator

Publications & Patents

FSDM: Few-Shot Diffusion Models <u>GIANNONE</u> , NIELSEN, WINTHER	under-review 2022
JM1: Worst-group Generalization by Group Interpolation <u>GIANNONE</u> , HAVRYLOV, MASSIAH, YILMAZ, JIAO	under-review, NeurIPS-W 2022,2021
SCHA-VAE: Hierarchical Context Aggregation for Few-Shot Generation <u>GIANNONE</u> , WINTHER	ICML 2022
Method and apparatus for semantic segmentation and depth completion CHIDLOVSKII, <u>GIANNONE</u>	US Patent 2022
HFSGM: Hierarchical Few-Shot Generative Models <u>GIANNONE</u> , WINTHER	NeurIPS-W 2021
Transformation-aware Variational Autoencoders <u>GIANNONE</u> , SAREMI, MASCI, OSENDORFER	Tech report 2020
INODE: Input-filtering NeuralODEs for spiking data <u>GIANNONE</u> , ANOOSHEH, QUAGLINO, D'ORO, MASCI, GALLIERI	NeurIPS-W 2020
T-VAE: No Representation without Transformation <u>GIANNONE</u> , MASCI, OSENDORFER	NeurIPS-W 2019
Learning Common Representation from RGB and Depth Images <u>GIANNONE</u> , CHIDLOVSKII	CVPR-W 2019

Grants & Awards

Grant, Independent Research Fund Denmark DFF PhD Grant	Lyngby, Denmark Jun 2020
Grant, Perception as Generative Reasoning Workshop Free conference registration	NeurIPS 2019 Oct 2019
Grant, Pi School Full tuition covered for the School of AI (3% acceptance rate)	Rome, Italy Oct 2018
Certificate of Award, Tsinghua University Prize for outstanding accomplishments (top 6)	Beijing, China Aug 2018
Certificate of Achievement, Naver Labs Europe Prize for the best internship performance	Grenoble, France Jul 2018
1st Pick, Excellence Path, Master's Degree, Data Science Admission based on the first year's academic performance Participation in activities at the School for Advanced Studies	Rome, Italy Mar 2018
1st Place, Global AI Hackathon, Italian Edition Our team built GAiA, a working assistant chatbot We won three prizes: Challenge Microsoft, People's Choice, Product Market Fit	Rome, Italy Jun 2017

Academic Service

Reviewer

Conference (assisted review): ICML19, ICCV19, AAAI20

Conference: ICML21 (top 10%), AISTATS21, ICML22, NeurIPS22

Journal: TPAMI

Workshop: NeurIPS-IBW20, NeurIPS-MetaLearn21

Teaching

Teaching: TA for Deep Learning (02456), Bayesian Machine Learning (02477), Advanced Machine Learning (02460)

Supervision: two special courses (9 months), one master's thesis (6 months), 18 course final projects

Volunteering

PAISS18, NeurIPS18, ELLIS Unit Copenhagen

Skills

Languages

- Python (proficient); R, Matlab (good knowledge); C, Java, JavaScript (basic knowledge)

Tools

- AWS, CVX, Git, Linux, MongoDB, MySQL, NLTK, OpenCV, PyTorch, TensorFlow

Miscellaneous

Summer/Winther Schools

- OxML22, ProbAI21, M2L21, SMILES20, EEML20, RegML20, ETH School on PDEs, Tsinghua DL 2018, PAISS18

Talks

- Algorithmic Methods for Data Mining (Sapienza University), Bayesian Reading Group (DTU), MLLS Center (KU/DTU), UCL-NLP (London), Amazon Alexa (Cambridge)

Online Certified Education

- Coursera: Machine Learning (Oct 2016), Deep Learning (Aug 2017).
- edX:
 - Computer Science (Nov 2016), Artificial Intelligence (Apr 2017), CS50 (Jan 2021), Math for Quant Finance (Oct 2021), Causal Diagrams (Nov 2021), Science and Business of Biotech (Jun 2022).
- Udacity: Self-Driving Cars Nanodegree, 1st term (Dec 2017).

Associations

- Italian Association for Machine Learning (IAML);
- ContinualAI