

STÉPHANE D'ASCOLI

Ph.D. student in deep learning

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EXPERIENCE

Ph.D. student & Teacher Assistant

École Normale Supérieure (ENS) & Facebook AI Research (FAIR)

📅 Sep 2018 – Present

📍 Paris

My research focuses on understanding and improving neural networks, from toy models to modern architectures. Up-to-date publication record on Google Scholar [↗](#).
I was also teacher assistant of Prof. Marc Lelarge at ENS for graduate courses on deep learning.

AI research intern

Snips.ai

📅 Feb 2020 – Aug 2020

📍 Paris

Developed an AI software to generate text for data-privacy focused vocal assistants [↗](#).

"Classe préparatoire" examiner

Lycées Henri-4, Saint-Louis, Michelet

📅 Sep 2017 – Sep 2019

📍 Paris

Oral examinations in Physics given on a weekly basis to undergraduate students preparing for entrance exams to top institutions.

Visiting scholar

NASA Goddard Space Flight Center & Center for Computational Relativity and Gravitation

📅 Feb 2017 – Aug 2017

📍 Rochester, NY

Produced the first simulation of the image of a binary black hole. News feature [↗](#) in many newspapers (*Daily Mail*, *L'Obs*, *Science & Vie...*).

INTERESTS

Science outreach

Wrote three science books [↗](#) (two on artificial intelligence and one on astrophysics), all published by First Editions.
Spoke on radio and TV (France Culture with Etienne Klein [↗](#), France Bleu with Sidonie Bonnet [↗](#), France Info [↗](#), ...).

Music

Obtained a final Conservatoire diploma in clarinet, and earned several prizes in international clarinet competitions.
Performed in solo, chamber music and orchestra concerts. See my YouTube channel for some videos [↗](#).
Managed an orchestra [↗](#) for a year.

EDUCATION

M.Sc. in Theoretical Physics

École Normale Supérieure, Paris

📅 Sep 2016 – Sep 2018

First class honours (average grade: 16.48/20).

B.Sc. in Physics

École Normale Supérieure, Paris

📅 Sep 2015 – Sep 2016

First class honours (average grade: 17.00/20).

"Classe préparatoire"

Lycée Thiers, Marseille

📅 Sep 2013 – Sep 2015

Entered ENS Paris (ranked 6th nationwide).
Prior to this, obtained a scientific baccalauréate (average grade: 19.63/20).

SKILLS

Music: Clarinet Piano Trumpet

Sports: Running Cycling Swimming
Tennis Squash Skiing Hiking

Programming: Unix Git
Python Pytorch C/C++

Other: Driving license

LANGUAGES

English (native) ● ● ● ● ●

French (native) ● ● ● ● ●

German ● ● ● ● ●

Spanish ● ● ● ● ●

PUBLICATIONS

Books

- d'Ascoli, Stéphane, & Bouscal, A. (2022). *Voyage au coeur de l'atome*. **First**.
 - d'Ascoli, Stéphane, & Touati, A. (2021). *Voyage au coeur de l'espace-temps*. **First**.
 - d'Ascoli, Stéphane. (2020a). *Comprendre la révolution de l'intelligence artificielle*. **First**.
 - d'Ascoli, Stéphane. (2020b). *L'intelligence artificielle en 5 minutes par jour*. **First**.
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Journal Articles

- d'Ascoli, Stéphane, Refinetti, M., Ohana, R., & Goldt, S. (2022). The dynamics of learning with feedback alignment. *J. Phys. A (special issue)*.
 - d'Ascoli, Stéphane, Sagun, L., & Biroli, G. (2022). Triple descent and the two kinds of overfitting: Where and why do they appear? *J. Stat. Mech (special issue)*.
 - Geiger, M., Jacot, A., Spigler, S., Gabriel, F., Sagun, L., d'Ascoli, Stéphane, ... Wyart, M. (2020). Scaling description of generalization with number of parameters in deep learning. *J. Stat. Mech*.
 - Geiger, M., Spigler, S., d'Ascoli, Stéphane, Sagun, L., Baity-Jesi, M., Biroli, G., & Wyart, M. (2019). Jamming transition as a paradigm to understand the loss landscape of deep neural networks. *Phys. Rev. E*.
 - Spigler, S., Geiger, M., d'Ascoli, Stéphane, Sagun, L., Biroli, G., & Wyart, M. (2019). A jamming transition from under-to over-parametrization affects generalization in deep learning. *J. Phys. A*.
 - d'Ascoli, Stéphane, Noble, S. C., Bowen, D. B., Campanelli, M., Krolik, J. H., & Mewes, V. (2018). Electromagnetic emission from supermassive binary black holes approaching merger. *The Astrophysical Journal*.
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Conference Proceedings

- d'Ascoli, Stéphane, Gabrié, M., Sagun, L., & Biroli, G. (2021). More data or more parameters? investigating the effect of data structure on generalization. In *NeurIPS*.
 - d'Ascoli, Stéphane, Touvron, H., Leavitt, M., Morcos, A., Biroli, G., & Sagun, L. (2021). Convit: Improving vision transformers with soft convolutional inductive biases. In *ICML*.
 - d'Ascoli, Stéphane, Coucke, A., Caltagirone, F., Caulier, A., & Lelarge, M. (2020). Conditioned text generation with transfer for closed-domain dialogue systems. In *SLSP*.
 - d'Ascoli, Stéphane, Refinetti, M., Biroli, G., & Krzakala, F. (2020). Double trouble in double descent: Bias and variance (s) in the lazy regime. In *ICML*.
 - d'Ascoli, Stéphane, Refinetti, M., Ohana, R., & Goldt, S. (2020). The dynamics of learning with feedback alignment. In *ICML*.
 - d'Ascoli, Stéphane, Sagun, L., & Biroli, G. (2020). Triple descent and the two kinds of overfitting: Where and why do they appear? In *NeurIPS*.
 - d'Ascoli, Stéphane, Sagun, L., Biroli, G., & Bruna, J. (2019). Finding the needle in the haystack with convolutions: On the benefits of architectural bias. In *NeurIPS*.
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Preprints

- d'Ascoli, Stéphane, Kamienny, P.-A., & Charton, F. (2021). Deep symbolic regression for recurrence prediction.
 - d'Ascoli, Stéphane, Sagun, L., Biroli, G., & Morcos, A. (2021). Transformed cnns: Recasting pre-trained convolutional layers with self-attention.
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COMMUNITY

Co-organizer of the Data Science seminar at ENS Paris .

Reviewer for:

- **Journals:** Nature Communications, Information and Inference, Journal of Physics A, IEEE Transactions.
- **Conferences:** ICML, NeurIPS, ICLR.