Stefano Massaroli

Born in Italy, 9th of July 1995

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Education

2022–	Postdoc, Mila. Supervisor: Yoshua Bengio.
2021–2022	Postdoc, University of Tokyo. Supervisor: Hajime Asama.
2019–2021	PhD in Engineering, University of Tokyo. Advisor: Hajime Asama
	Learning with Dynamical Systems: Implicit Models, Neural Differential Equations & Optimal Control
	Thesis committee: Atsushi Yamashita, Taiji Suzuki, Akio Yamamoto & Kiyoshi Kotani
2017–2019	ME in Robotics, University of Tokyo. Advisor: Hajime Asama.
2014–2017	BE in Automation, University of Bologna. Advisor: Claudio Melchiorri. (*summa cum laude*).

Preprints

* Denotes equal contribution. r_a denotes the *acceptance rate*.

1. Zhou, L., Poli, M., Xu, W., **Massaroli, M.**, & Ermon, S., 2022. *Deep Latent State Space Models for Time-Series Generation.* September 2022.

2. Hua, C., Berto, F., Poli, M., **Massaroli, S.**, & Park, J., 2022. *Graph Spline Networks for Efficient Continuous Simulation of Dynamical Systems.* September 2022.

3. Poli, M.*, **Massaroli, S.***, Federico Berto*, Park, J., Dao, T., Re, C., & Ermon, S., 2022. *Transform Once: Efficient Operator Learning in Frequency Domain.* To appear in Advances in Neural Information Processing Systems, 35th.

4. Poli, M.*, Xu, W.*, **Massaroli, S.***, Meng, C., Kim, K., & Ermon, S., 2022. *Self-Similarity Priors: Neural Collages as Differentiable Fractal Representations.* To appear in Advances in Neural Information Processing Systems, 35th.

Selected Publications

Full list of publications available on my website https://massaroli.site

1. **Massaroli, S.**, Poli, M., Califano, F., Park, J., Yamashita, A., & Asama, H., 2022. *Optimal Energy Shaping via Neural Approximators.* SIAM Journal on Applied Dynamical Systems.

2. Berto, F., **Massaroli, S.**, Poli, M., & Park, J., 2022. *Neural Solvers for Fast and Accurate Numerical Optimal Control.* In International Conference for Learning Representations 2022.

3. **Massaroli, S.***, Poli*, M., Sonoda, S., Suzuki, T., Park, J., Yamashita, A., & Asama, H., 2021. *Differentiable Multiple Shooting Layers.* Advances in Neural Information Processing Systems, 34th.

4. Poli, M.*, **Massaroli, S.***, Scimeca, L., Chun, S., Oh, S.J., Yamashita, A., Asama, H., Park, J., & Garg, A., 2021. *Neural Hybrid Automata: Learning Dynamics with Multiple Modes and Stochastic Transitions.* Advances in Neural Information Processing Systems, 34th.

5. **Massaroli, S.**, Poli, M., Peluchetti, S., Park, J., Yamashita, A., & Asama, H., 2021. *Learning Stochastic Optimal Policies via Gradient Descent.* IEEE Control Systems Letters.

6. **Massaroli, S.***, Poli, M.*, Park, J., Yamashita, A., & Asama, H., 2020. *Dissecting Neural ODEs.* Advances in Neural Information Processing Systems, 33th. (oral, $r_a \approx 1\%$).

7. Poli, M.*, **Massaroli, S.***, Yamashita, A., Asama, H., & Park, J., 2020. *Hypersolvers: Toward Fast Continuous-Depth Models.* Advances in Neural Information Processing Systems, 33th.

Experience

University of Tokyo, Tokyo, Japan
Visiting Researcher, Incoming
Reference: Hajime Asama `asama@robot.t.u-tokyo.ac.jp`

RIKEN AiP, Tokyo, Japan
Visiting Researcher, Incoming
Reference: Taiji Suzuki `taiji@mist.t.u-tokyo.ac.jp`

Korean Advanced Institute of Science and Technology, Daejeon, South Korea
Visiting Researcher, 2020.1 –
Reference: Jinkyoo Park `jinkyoo@kaist.ac.kr`

University of Tokyo, Japan
Research Assistant, 2019.9 – 2022.4
Reference: Hajime Asama `asama@robot.t.u-tokyo.ac.jp`

Reviewing

NeurIPS 2021; 2022
ICLR 2022; 2023
ICML 2021
AISTAT 2021
IEEE Transactions on Neural Networks and Learning Systems
IEEE Transactions on Mechatronics
IEEE Transactions on Industrial Informatics
IEEE Control Systems Letters
IEEE Conference on Decision and Control

Other Activities:

Organizer of the 2021 and 2022 editions of the NeurIPS workshop *The Symbiosis of Deep Learning and Differential Equations* (DLDE 21–22).