



FILIPPO ALEOTTI

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in

PROFESSIONAL EXPERIENCE

Machine Learning Engineer

Niantic

2022 – present

London, United Kingdom

EDUCATION

PhD in Structural and Environmental Health Monitoring and Management

Alma Mater Studiorum University of Bologna

2018 – 2022

Bologna, Italy

Master degree in Computer Engineering | 110/110 cum laude

Alma Mater Studiorum University of Bologna

2015 – 2018

Bologna, Italy

Bachelor degree in Computer Engineering | 110/110 cum laude

Alma Mater Studiorum University of Bologna

2012 – 2015

Bologna, Italy

DEMOS, TUTORIALS AND TALKS

Learning and understanding single image depth estimation in the wild | *Tutorial*

Computer Vision and Pattern Recognition (CVPR)

2020

Online

Facing depth estimation in-the-wild with deep networks | *Tutorial*

European Computer Vision Conference (ECCV)

2020

Online

AWARDS

Best Paper Honorable Mention

Neural Disparity Refinement for Arbitrary Resolution Stereo

2021

International Conference on 3D Vision

PUBLICATIONS

- [1] M. Sayed, F. Aleotti, J. Watson, Z. Qureshi, G. Garcia-Hernando, G. Brostow, S. Vicente, and M. Firman, "Doubletake: Geometry guided depth estimation," in *European Conference on Computer Vision*, 2024.
- [2] J. Watson, F. Aleotti, M. Sayed, Z. Qureshi, O. Mac Aodha, G. Brostow, M. Firman, and S. Vicente, "Airplanes: Accurate plane estimation via 3D-consistent embeddings," in *Conference on Computer Vision and Pattern Recognition*, 2024.
- [3] F. Aleotti, M. Poggi, and S. Mattocchia, "Learning optical flow from still images," in *Conference on Computer Vision and Pattern Recognition*, 2021.
- [4] F. Aleotti, F. Tosi, P. Zama Ramirez, M. Poggi, S. Salti, L. Di Stefano, and S. Mattocchia, "Neural disparity refinement for arbitrary resolution stereo," in *International Conference on 3D Vision*, 2021.
- [5] F. Aleotti, G. Zaccaroni, L. Bartolomei, M. Poggi, F. Tosi, and S. Mattocchia, "Real-time single image depth perception in the wild with handheld devices," *Sensors*, 2021.
- [6] A.-H. Livoroi, A. Conti, L. Foianesi, F. Tosi, F. Aleotti, M. Poggi, F. Tauro, E. Toth, S. Grimaldi, and S. Mattocchia, "On the deployment of out-of-the-box embedded devices for self-powered river surface flow velocity monitoring at the edge," *Applied Sciences*, vol. 11, no. 15, 2021.
- [7] M. Poggi, F. Aleotti, and S. Mattocchia, "Sensor-guided optical flow," in *International Conference on Computer Vision*, 2021.

- [8] M. Poggi, S. Kim, F. Tosi, S. Kim, **F. Aleotti**, D. Min, K. Sohn, and S. Mattocchia, "On the confidence of stereo matching in a deep-learning era: A quantitative evaluation," *Transactions on Pattern Analysis and Machine Intelligence*, 2021.
- [9] **F. Aleotti**, M. Poggi, F. Tosi, and S. Mattocchia, "Learning end-to-end scene flow by distilling single tasks knowledge," in *AAAI Conference on Artificial Intelligence*, 2020.
- [10] **F. Aleotti**, F. Tosi, P. Z. Ramirez, M. Poggi, S. Salti, L. D. Stefano, and S. Mattocchia, "Distilled semantics for comprehensive scene understanding from videos," in *Conference on Computer Vision and Pattern Recognition*, 2020.
- [11] **F. Aleotti**, F. Tosi, L. Zhang, M. Poggi, and S. Mattocchia, "Reversing the cycle: Self-supervised deep stereo through enhanced monocular distillation," in *European Conference on Computer Vision*, Springer, 2020.
- [12] V. Peluso, A. Cipolletta, A. Calimera, M. Poggi, F. Tosi, **F. Aleotti**, and S. Mattocchia, "Enabling monocular depth perception at the very edge," in *Conference on Computer Vision and Pattern Recognition Workshops*, 2020.
- [13] M. Poggi, **F. Aleotti**, F. Tosi, and S. Mattocchia, "On the uncertainty of self-supervised monocular depth estimation," in *Conference on Computer Vision and Pattern Recognition*, 2020.
- [14] M. Poggi, **F. Aleotti**, F. Tosi, and S. Mattocchia, "Self-adapting confidence estimation for stereo," in *European Conference on Computer Vision*, Springer, 2020.
- [15] M. Poggi, F. Tosi, **F. Aleotti**, and S. Mattocchia, "Leveraging a weakly adversarial paradigm for joint learning of disparity and confidence estimation," in *International Conference on Pattern Recognition*, 2020.
- [16] F. Tosi, M. Rocca, **F. Aleotti**, M. Poggi, S. Mattocchia, F. Tauro, E. Toth, and S. Grimaldi, "Enabling image-based streamflow monitoring at the edge," *Remote Sensing*, 2020.
- [17] F. Tosi, **F. Aleotti**, M. Poggi, and S. Mattocchia, "Learning monocular depth estimation infusing traditional stereo knowledge," in *Conference on Computer Vision and Pattern Recognition*, 2019.
- [18] **F. Aleotti**, F. Tosi, M. Poggi, and S. Mattocchia, "Generative adversarial networks for unsupervised monocular depth prediction," in *European Conference on Computer Vision Workshops*, 2018.
- [19] M. Poggi, **F. Aleotti**, F. Tosi, and S. Mattocchia, "Towards real-time unsupervised monocular depth estimation on cpu," in *International Conference on Intelligent Robots and Systems*, IEEE, 2018.

SKILLS

Languages: Italian, English

Programming: Python, Java, Javascript, C

Frameworks: PyTorch, TensorFlow, OpenCV