Filippo Aleotti

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https://scholar.google.com/citations?user=XN0qbX8AAAAJ

Education

Visiting researcher at Czech Technical University (Prague) — April 2021 – October 2021
Czech Institute of Informatics, Robotics and Cybernetics. Supervised by prof. Torsten Sattler — Prague, Czech Republic

PhD in Structural and Environmental Health Monitoring and Management — 2018 – present
Department of Computer Science, University of Bologna — Bologna, Italy

Master degree in Computer Engineering | ***110/110 cum laude*** — 2015 – 2018
Alma Mater Studiorum University of Bologna — Bologna, Italy

Bachelor degree in Computer Engineering | ***110/110 cum laude*** — 2012 – 2015
Alma Mater Studiorum University of Bologna — Bologna, Italy

Demos, Tutorials and Talks

Real-Time Monocular Depth Estimation Without GPU | ***Demo*** — 2019
Computer Vision and Pattern Recognition (CVPR) — Long Beach, US

Learning and understanding single image depth estimation in the wild | ***Tutorial*** — 2020
Computer Vision and Pattern Recognition (CVPR) — Online

Facing depth estimation in-the-wild with deep networks | ***Tutorial*** — 2020
European Computer Vision Conference (ECCV) — Online

Awards

Best Paper Honorable Mention — 2021
Neural Disparity Refinement for Arbitrary Resolution Stereo — International Conference on 3D Vision

Publications

[1] **F. Aleotti**, M. Poggi, and S. Mattoccia, "Learning optical flow from still images," in *Conference on Computer Vision and Pattern Recognition*, 2021.

[2] **F. Aleotti**, F. Tosi, P. Zama Ramirez, M. Poggi, S. Salti, L. Di Stefano, and S. Mattoccia, "Neural disparity refinement for arbitrary resolution stereo," in *International Conference on 3D Vision*, 2021.

[3] **F. Aleotti**, G. Zaccaroni, L. Bartolomei, M. Poggi, F. Tosi, and S. Mattoccia, "Real-time single image depth perception in the wild with handheld devices," *Sensors*, 2021.

[4] A.-H. Livoroi, A. Conti, L. Foianesi, F. Tosi, **F. Aleotti**, M. Poggi, F. Tauro, E. Toth, S. Grimaldi, and S. Mattoccia, "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.

[5] M. Poggi, **F. Aleotti**, and S. Mattoccia, "Sensor-guided optical flow," in *International Conference on Computer Vision*, 2021.

[6] M. Poggi, S. Kim, F. Tosi, S. Kim, **F. Aleotti**, D. Min, K. Sohn, and S. Mattoccia, "On the confidence of stereo matching in a deep-learning era: A quantitative evaluation," *Transactions on Pattern Analysis and Machine Intelligence*, 2021.

[7] **F. Aleotti**, M. Poggi, F. Tosi, and S. Mattoccia, "Learning end-to-end scene flow by distilling single tasks knowledge," in *AAAI Conference on Artificial Intelligence*, 2020.

[8] **F. Aleotti**, F. Tosi, P. Z. Ramirez, M. Poggi, S. Salti, L. D. Stefano, and S. Mattoccia, "Distilled semantics for comprehensive scene understanding from videos," in *Conference on Computer Vision and Pattern Recognition*, 2020.

[9] **F. Aleotti**, F. Tosi, L. Zhang, M. Poggi, and S. Mattoccia, "Reversing the cycle: Self-supervised deep stereo through enhanced monocular distillation," in *European Conference on Computer Vision*, Springer, 2020.

[10] P. Matteo, F. Tosi, **F. Aleotti**, and S. Mattoccia, "Leveraging a weakly adversarial paradigm for joint learning of disparity and confidence estimation," in *International Conference on Pattern Recognition*, 2020.

[11] V. Peluso, A. Cipolletta, A. Calimera, M. Poggi, F. Tosi, **F. Aleotti**, and S. Mattoccia, "Enabling monocular depth perception at the very edge," in *Conference on Computer Vision and Pattern Recognition Workshops*, 2020.

[12] M. Poggi, **F. Aleotti**, F. Tosi, and S. Mattoccia, "On the uncertainty of self-supervised monocular depth estimation," in *Conference on Computer Vision and Pattern Recognition*, 2020.

[13] M. Poggi, **F. Aleotti**, F. Tosi, and S. Mattoccia, "Self-adapting confidence estimation for stereo," in *European Conference on Computer Vision*, Springer, 2020.

[14] F. Tosi, M. Rocca, **F. Aleotti**, M. Poggi, S. Mattoccia, F. Tauro, E. Toth, and S. Grimaldi, "Enabling image-based streamflow monitoring at the edge," *Remote Sensing*, 2020.

[15] F. Tosi, **F. Aleotti**, M. Poggi, and S. Mattoccia, "Learning monocular depth estimation infusing traditional stereo knowledge," in *Conference on Computer Vision and Pattern Recognition*, 2019.

[16] **F. Aleotti**, F. Tosi, M. Poggi, and S. Mattoccia, "Generative adversarial networks for unsupervised monocular depth prediction," in *European Conference on Computer Vision Workshops*, 2018.

[17] M. Poggi, **F. Aleotti**, F. Tosi, and S. Mattoccia, "Towards real-time unsupervised monocular depth estimation on cpu," in *International Conference on Intelligent Robots and Systems*, IEEE, 2018.

Teaching Experience

Foundations of Informatics P2 | ***Tutor*** — 2018-2019
Mechatronics Engineering, University of Bologna — Bologna, IT

Foundations of Informatics P2 | ***Tutor*** — 2019-2020
Mechatronics Engineering, University of Bologna — Bologna, IT

Python course | ***Teacher*** — 2019-2020
Master at Sustainable and Integrated Mobility in Urban Regions — Imola, IT

Depth Sensing Technologies for Autonomous Vehicles | ***Speaker*** — 2020-2021
Master at Sustainable and Integrated Mobility in Urban Regions — Imola, IT

Skills

Languages: Italian, English
Programming: Python, Java, C
Frameworks: PyTorch, TensorFlow, OpenCV