Supplementary Material for
LiteFlowNet: A Lightweight Convolutional Neural Network for Optical Flow Estimation

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S1. More Results

Figures S1 to S3 show some examples of flow fields of different best performing networks on Sintel clean and final passes [2], KITTI12 [4], KITTI15 [7], and Middlebury [1] benchmarks. A video clip (https://www.youtube.com/watch?v=pfQ0zFwv-hM) is available on our project page (http://mmlab.ie.cuhk.edu.hk/projects/LiteFlowNet/) to showcase the performance of LiteFlowNet [5] and the effectiveness of the proposed components in our network. Flow fields of the compared methods, FlowNet[1] [3], FlowNet2[2] [6] and SPyNet[3] [8], are generated using the trained models and the code packages provided by the corresponding authors.

References

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[1] https://lmb.informatik.uni-freiburg.de/resources/binaries/dispflownet/dispflownet-release-1.2.tar.gz

[2] https://github.com/lmb-freiburg/flownet2

[3] https://github.com/anuragranj/spynet

Clean pass (train): Image overlay | Ground truth, End-point error (EPE) | FlowNetS [3], EPE: 14.84 | FlowNetC [3], EPE: 11.38

FlowNet2-S [6], EPE: 12.54 | FlowNet2-C [6], EPE: 9.30 | FlowNet2 [6], EPE: 5.78 | LiteFlowNet [5], EPE: 4.19

Final pass (train): Image overlay | Ground truth, End-point error (EPE) | FlowNetS [3], EPE: 3.83 | FlowNetC [3], EPE: 3.05

FlowNet2-S [6], EPE: 3.21 | FlowNet2-C [6], EPE: 3.95 | FlowNet2 [6], EPE: 2.94 | LiteFlowNet [5], EPE: 2.21

Clean pass (test): Image overlay | SPyNet-ft [8] | FlowNet2-ft-sintel [6] | LiteFlowNet-ft [5]

Final pass (test): Image overlay | SPyNet-ft [8] | FlowNet2-ft-sintel [6] | LiteFlowNet-ft [5]
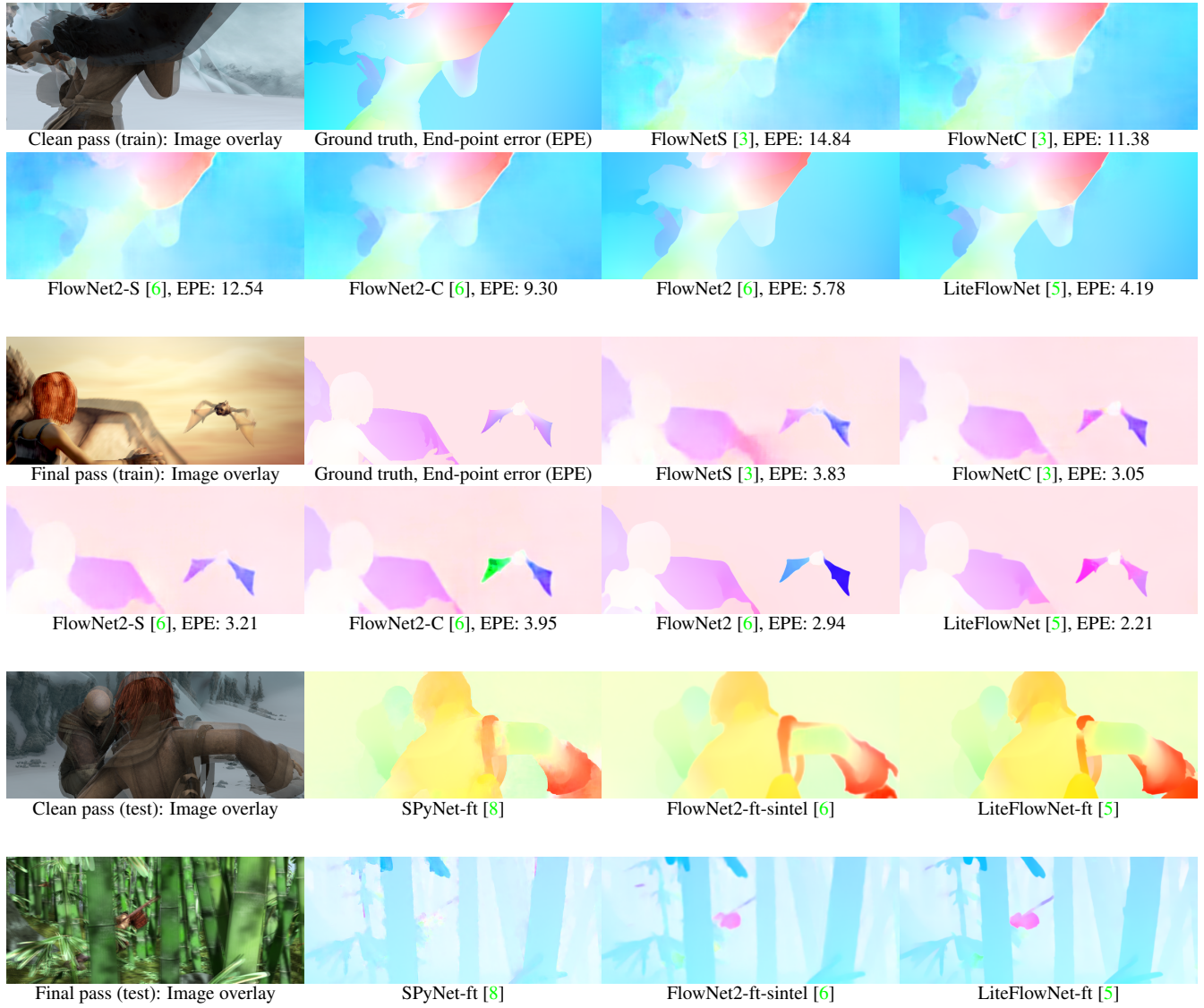
Figure S1: Examples of flow fields from different methods on the training (top 4 rows) and testing (bottom 2 rows) sets of Sintel clean and final passes. Ground truths are not available for the testing set.

KITTI12 (train): Image overlay   Ground truth, End-point error (EPE)   FlowNetS [3], EPE: 9.74   FlowNetC [3], EPE: 8.18

FlowNet2-S [6], EPE: 7.29   FlowNet2-C [6], EPE: 7.41   FlowNet2 [6], EPE: 6.52   LiteFlowNet [5], EPE: 4.66

KITTI15 (train): Image overlay   Ground truth, End-point error (EPE)   FlowNetS [3], EPE: 15.25   FlowNetC [3], EPE: 16.09

FlowNet2-S [6], EPE: 15.26   FlowNet2-C [6], EPE: 12.86   FlowNet2 [6], EPE: 10.51   LiteFlowNet [5], EPE: 7.94

KITTI12 (test): Image overlay   SPyNet-ft [8]   FlowNet2-ft-sintel [6]   LiteFlowNet-ft

KITTI15 (test): Image overlay   SPyNet-ft [8]   FlowNet2-ft-sintel [6]   LiteFlowNet-ft [5]
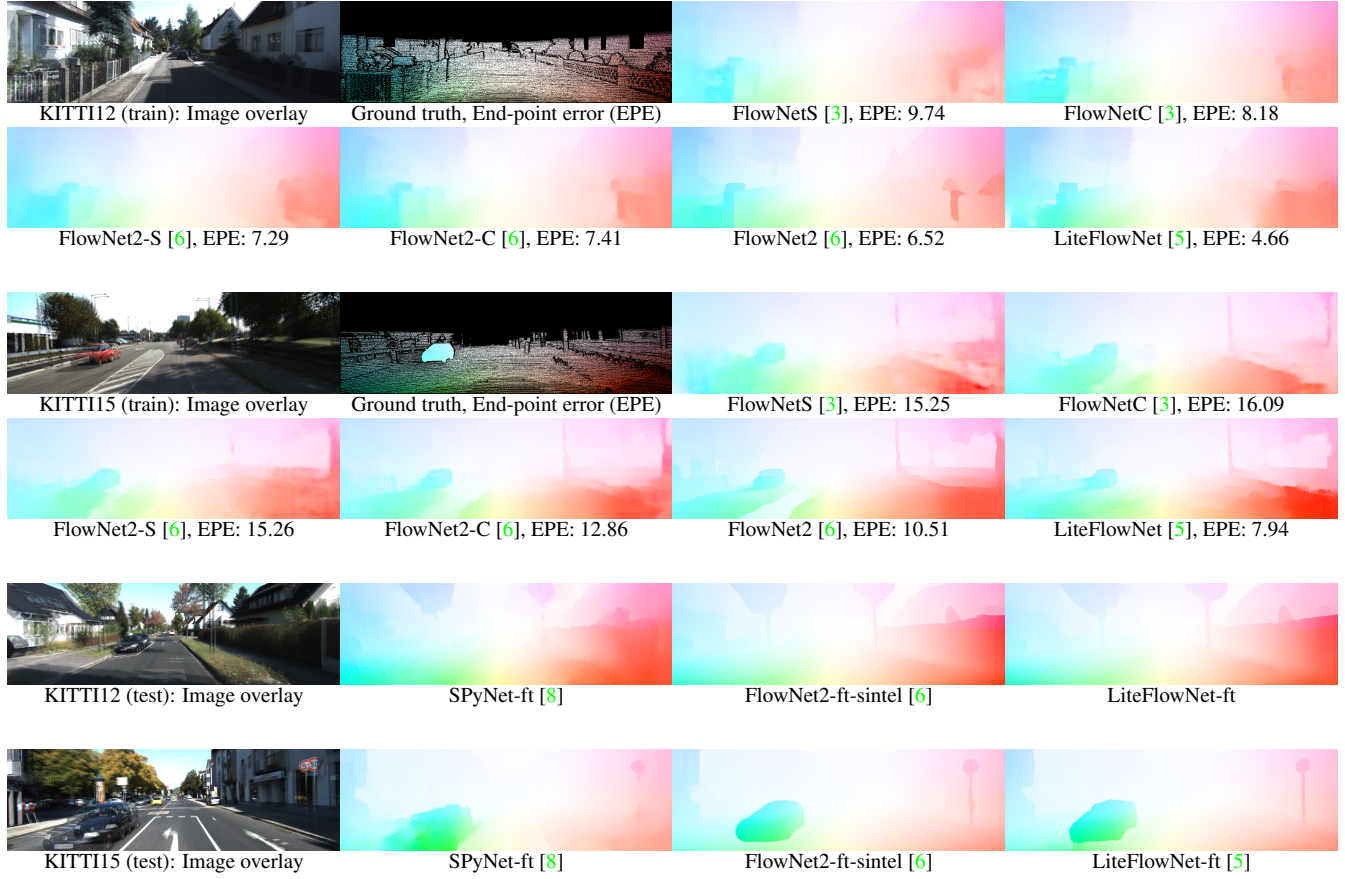
Figure S2: Examples of flow fields from different methods on the training (top 4 rows) and testing (bottom 2 rows) of KITTI benchmarks. Ground truths are not available for the testing set.
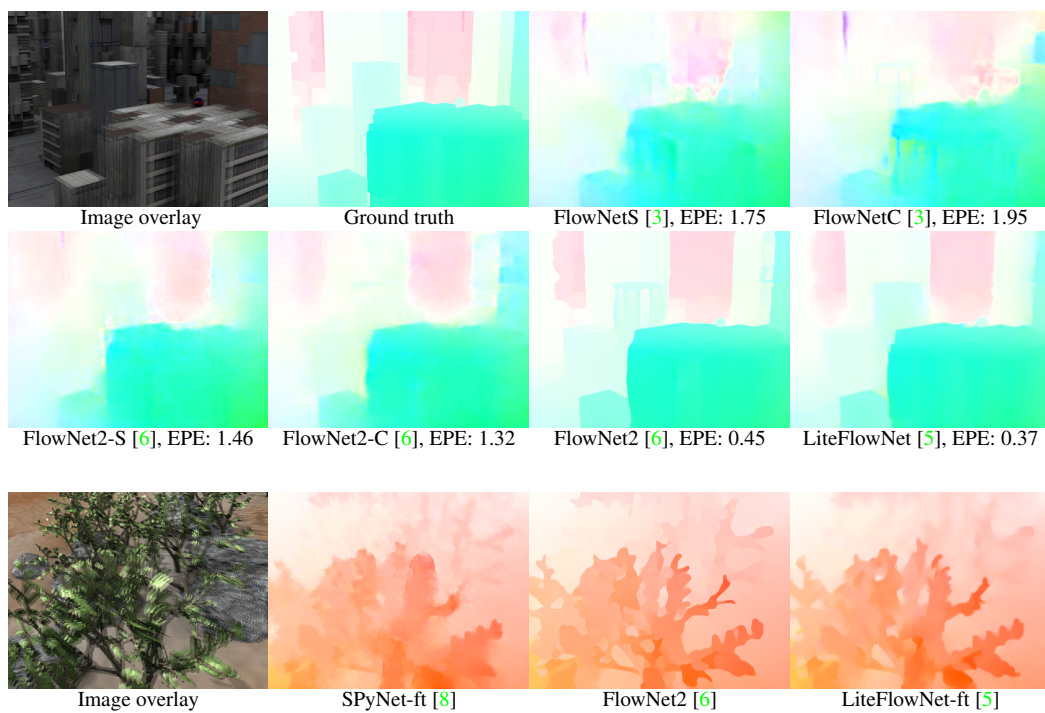
Figure S3: Examples of flow fields from different methods on the training (top 2 rows) and testing (bottom row) sets of Middlebury. Ground truths are not available for the testing set.