LAHAV LIPSON

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EDUCATION

3rd Year Ph.D. Candidate in Computer Science, Princeton University
Advised by Jia Deng, Vision and Learning Lab
B.S. in Computer Science, Columbia University, School of Engineering and Applied Science
Graduated Summa Cum Laude (top 5%), 4.06 GPA

PUBLICATIONS

RAFT-Stereo: Multilevel Recurrent Field Transforms for Stereo Matching
International Conference on 3D Vision (3DV), 2021. ***(Best Student Paper Award)***

- Introduced a new deep architecture for rectified stereo.
- Uses multiple recurrent update modules to refine a high-resolution disparity estimate between images. Achieves state-of-the-art results across multiple real-world datasets.
- Our method is extremely memory efficient, and a version runs in real-time.

Coupled Iterative Refinement for 6D Multi-Object Pose Estimation Lahav Lipson
Conference on Computer Vision and Pattern Recognition (CVPR), 2022

- Proposes an end-to-end pipeline for estimating 6-DOF object pose from single images.
- Introduces a differentiable solver layer which jointly optimizes both pose and correspondence, enabling us to dynamically remove outliers to improve accuracy.
- Our method works with-or-without depth input, using one of two variants of our introduced solver layer
- Achieves state-of-the-art results among published methods on standard benchmarks.

OTHER RESEARCH EXPERIENCE

Dataset Creation

- I have developed procedural methods of generating synthetic data for training deep learning models.
- I have built data annotation pipelines and collected crowd-sourced data at scale. This data is necessary for the development of state-of-the-art machine learning methods to be deployed in the wild.

WORK EXPERIENCE

Amazon Intern ***Jun. 2018 – Aug. 2018***
Software Developer Engineer

- Developed applications for Amazon.com retail website, collaborating with ~26 other developers.
- Designed and implemented a product recommendation system as part of the Amazon Stores Team.

Teaching Assistant
Computer Vision (Princeton), Algorithms and Data Structures (Princeton), Computer Science Theory (Columbia)

- Wrote and/or Graded assignments, held office hours and led precepts and discussions.

ADDITIONAL INDEPENDENT PROJECTS

Developed website for choosing courses at Columbia
Lionscores.com

- Enables students to access courses relevant statistics aggregated from course evaluations. Accessed 100,000+ times by the Columbia community as of Dec 1st, 2021.

Relevant Software Experience: PyTorch, CUDA, Python, Java, C++, Blender