

# Li, Mengtian

[mtli@cs.cmu.edu](mailto:mtli@cs.cmu.edu)[mtli.github.io](https://github.com/mtli)

## EDUCATION

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### Ph.D. in Robotics

Aug 2017 – May 2022

School of Computer Science, **Carnegie Mellon University**

Pittsburgh, USA

Advisor: Deva Ramanan

Thesis: Resource-Constrained Learning and Inference for Visual Perception

Committee: Deva Ramanan, Martial Hebert, Mahadev (Satya) Satyanarayanan,  
Raquel Urtasun and Ross Girshick

### M.S. in Robotics

Aug 2014 – Aug 2016

School of Computer Science, **Carnegie Mellon University**

Pittsburgh, USA

Advisor: Daniel Huber

GPA: 4.05/4.00

### B.S. in Computer Science

Mar 2010 – Jun 2014

Kuang Yaming Honors School, **Nanjing University**

Nanjing, China

## PUBLICATIONS & PREPRINTS

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**Mengtian Li**, Yu-Xiong Wang and Deva Ramanan. *Towards Streaming Perception*. In ECCV, Aug 2020 (**Oral, Best Paper Honorable Mention**).

Chittesh Thavamani\*, **Mengtian Li\***, Nicolas Cebron and Deva Ramanan. *FOVEA: Foveated Image Magnification for Autonomous Navigation*. In ICCV, Oct 2021.

**Mengtian Li**, Ersin Yumer and Deva Ramanan. *Budgeted Training: Rethinking Deep Neural Network Training Under Resource Constraints*. In ICLR, Apr 2020.

**Mengtian Li**, Alexander Shekhovtsov and Daniel Huber. *Complexity of Discrete Energy Minimization Problems*. In ECCV. Oct 2016 (**Spotlight**).

**Mengtian Li**, Laszlo Jeni and Deva Ramanan. *Brute-Force Facial Landmark Analysis with a 140,000-Way Classifier*. In AACL. Feb 2018.

**Mengtian Li**, Zhe Lin, Radomír Měch, Ersin Yumer and Deva Ramanan. *Photo-Sketching: Inferring Contour Drawings from Images*. In WACV, Jan 2019.

Neehar Peri, Jonathon Luiten, **Mengtian Li**, Aljosa Osep, Laura Leal-Taixé and Deva Ramanan. *Forecasting from LiDAR via Future Object Detection*. (To appear) in CVPR, Jun 2022.

Xiaofang Wang, Shengcao Cao\*, **Mengtian Li\*** and Kris M Kitani. *Neighborhood-Aware Neural Architecture Search*. In BMVC, Nov 2021.

**Mengtian Li**, Benjamin Wilson, Yu-Xiong Wang, James Hays and Deva Ramanan. *Multi-Range Pyramids for 3D Object Detection*. (Under review), 2022.

Ziqi Pang, Deva Ramanan, **Mengtian Li**, Yu-Xiong Wang. *Towards Online Forecasting*. (Under review), 2022.

Shubham Gupta\*, Jeet Kanjani\*, **Mengtian Li**, Francesco Ferroni, James Hays, Shu Kong and Deva Ramanan. *Far3Det: Towards Far-Field 3D Detection*. (Under review), 2022.

Shengcao Cao, **Mengtian Li**, James Hays, Deva Ramanan and Liangyan Gui. *Learning Lightweight Object Detectors via Progressive Knowledge Distillation*. (Under review), 2022.

Chittesh Thavamani, **Mengtian Li**, Francesco Ferroni and Deva Ramanan. *Learning to Zoom and Unzoom*. (Under review), 2022.

## PROFESSIONAL SERVICE

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- Co-organized the 1<sup>st</sup> Streaming Perception Challenge at CVPR 2021 Workshop on Autonomous Driving
- Conference reviewer for CVPR, ICCV, ECCV, NeurIPS, ICRA
- Journal reviewer for IEEE TPAMI, IJCV, IEEE Transactions on Multimedia, IEEE Transactions on Image Processing, Autonomous Robots, Neural Networks
- Teaching assistant for 16-822 Geometry-based Methods in Vision (Fall 2019) at Carnegie Mellon University
- Teaching assistant for 16-720 Computer Vision (Spring 2020) at Carnegie Mellon University

## RESEARCH INTERNSHIPS

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**Argo AI**, Pittsburgh, USA

May 2020 – Aug 2020

Mentor: Deva Ramanan

- Streaming perception for autonomous driving

**Argo AI**, Pittsburgh, USA

May 2019 – Aug 2019

Mentor: Deva Ramanan

- Evaluation method for attentional processing

**Argo AI**, Pittsburgh, USA

May 2018 – Aug 2018

Mentors: Deva Ramanan and Ersin Yumer

- Hard example simulation and mining for self-driving cars

**Adobe Research**, San Jose, USA

May 2017 – Aug 2017

Mentors: Radomír Měch, Zhe Lin and Ersin Yumer

- Image to sketch translation and large-scale data collection through drawing games

## SELECTED HONORS AND SCHOLARSHIPS

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- ECCV Best Paper Honorable Mention Award Aug 2020
- National Top Student Program Scholarship (3 times) Nov 2011, 2012, 2013
- Microsoft China Kinect App Contest Excellence Award (National Top 10) Mar 2013
- COMAP MCM/ICM Contest Meritorious Award Apr 2013
- UCLA CSST Summer Research Program Scholarship Mar 2013
- University People's Scholarship Nov 2011

## PATENT

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**Mengtian Li**, Ming Pang, Chenglin Meng, Chengxiang Jiang and Tong Lu. *A Vision-Based Human-Computer Interaction System in the Presentation Environment*. Chinese Invention Patent. Publication Number: CN103268153. Granted July 2016.

## SKILLS

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- Proficient in C/C++, Python and MATLAB
- Experienced with x86 assembly, JavaScript, HTML, CSS, OpenMP, OpenCV, DirectX, Win32 API, MFC, Kinect SDK, Batch File, Bash/Shell Script
- Experienced with large-scale data collection, annotation, and curation
- Experienced with large-scale distributed training and Amazon Web Services (AWS) such as EC2, S3 and AMT
- Experienced with interactive Web and desktop UI development
- Experienced with open-source project development and packaging
- Developed a generic monitoring tool for GPU clusters, which has been deployed at top universities such as CMU, UC Berkeley, UT Austin and RWTH Aachen
- Mentored 1 undergraduate, 4 master and 1 junior PhD students
- Adept in Microsoft Office Suite and Adobe Creative Cloud