

# Ligeng Zhu

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## Education

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### Massachusetts Institute of Technology, USA

Visiting student in Department of Electrical Engineering and Computer Science

### Simon Fraser University, Canada

Bachelor in Department of Computing Science

### Zhejiang University, China

Bachelor in Department of Computer Science.

## Research Interests

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Scalable & Efficient Machine Learning    Design Automation    Machine Learning Systems

## Publications **Google Scholar (140 citations)**

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### Conferences

1. **Distributed Training Across the World.**  
Ligeng Zhu, Yao Lu, Yujun Lin, Song Han  
Manuscript, under submission.
2. **Deep Leakage from Gradients.**  
Ligeng Zhu, Zhijian Liu, Song Han  
In *Proceeding of 33rd Conference on Neural Information Processing Systems (NeurIPS)*, 2019.
3. **Proxylessnas: Direct neural architecture search on target task and hardware.**  
Han Cai, Ligeng Zhu, Song Han.  
In *Proceedings of the 7th International Conference on Learning Representations (ICLR)*. 2019.  
111 citations / 849 stars on [Github](#) / Integrated into [PyTorch Hubs](#)
4. **Sparsely Aggregated Convolutional Networks.**  
Ligeng Zhu, Ruizhi Deng, Michael Maire, Greg Mori, Ping Tan.  
In *Proceedings of the 15th European Conference on Computer Vision (ECCV)*. 2018.
5. **Does Colour Really Matter? Evaluation via Object Classification.**  
Brian Funt, Ligeng Zhu.  
In *Proceedings of the 27th Color and Imaging Conference (CIC)*. 2018.
6. **Colorizing Color Images.**  
Ligeng Zhu, Brian Funt.  
In *Proceedings of the 30th Human Vision and Electronic Imaging (HVEI)*. 2018.
7. **Colorizing Color Images.**  
Luwei Yang, Ligen Zhu, Yichen Wei, Shuang Liang, Ping Tan.  
In *Proceedings of the 27th British Machine Vision Conference (BMVC)*. 2016.

### Journals

1. **AutoML for Architecting Efficient and Specialized Neural Networks**  
Song Han, Han Cai, Ligeng Zhu, Ji Lin, Kuan Wang, Zhijian Liu, Yujun Lin.  
In *the IEEE International Symposium on Microarchitecture (Micro)*. 2019.
2. **Small Object Sensitive Segmentation of Urban Street Scene With Spatial Adjacency Between Object Classes**  
Ligeng Zhu\*, Dazhou Guo\*, Yuhang Lu, Hongkai Yu, Song Wang  
In *the IEEE Transactions on Image Processing (TIP)*. 2019.

## Experiences

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### Intel Corporation

*Data Scientist@Artificial Intelligence Products Group*

Nov 2019 - Now  
*Santa Clara, CA, USA*

### Massachusetts Institute of Technology

*Research Assistant@Prof. [Song Han](#)'s Group*

Sept 2018 - Aug 2019  
*Cambridge, MA, USA*

- Secure (NIPS 19) and scalable (ICLR 20, in submission) federated learning.
- Efficient neural architecture search for hardware specialization (ICLR 19).

### Sensetime Inc

*Research Intern@Video Segmentation Group*

Jan 2018 - Aug 2018  
*Beijing, China*

Research on color stability of videos, and modified winograd to accelerated fix-point inference.

### Simon Fraser University

*Research Assistant*

Sep 2015 - Aug 2018  
*Vancouver, BC, Canada*

- With Prof. [Brian Funt](#) at [Color Vision Lab](#)
  - Automatic white-balancing via CNN (HVEI 18)
  - Color Important Analysis (CIC 18)
- With Prof. [Ping Tan](#) at [Graphic and Vision Lab](#)
  - Deep learning for simultaneously localization and recognition (BMVC 16).

### TuSimple Inc

*Research Intern@Self-driving Group*

May 2017 - Aug 2017  
*San Diego, CA, USA*

- ([Patent](#)): A system method for drivable road surface generation using multimodal sensor data
- ([Patent](#)): A system method for detecting taillight signals of vehicles via convolutional neural network

## Projects

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Most of my research stand on the shoulders of giants named "open-source". Therefore, I embrace open-source as much as possible. According to gitstar ranking, I rank 3379<sup>th</sup> among all github users.

PyTorch-OpCounter (1.1k stars)	ProxylessNAS (853 stars)	Efficient-PyTorch (334 stars)
pytorch-memonger (206 stars)	SparseNet (121 stars)	fast-artistic-videos (96 stars)

For details, please refer to my [GitHub](#). Beside personal projects, I also contribute to

MXNet, PyTorch, TVM, Horovod, mmdetection.

## Awards

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| • <b>Open Source Scholarship</b> , Simon Fraser University                  | 2017 |
| • <b>Academic Scholarship</b> , Simon Fraser University                     | 2017 |
| • <b>ACM-ICPC Contest Silver Medal</b> , Zhejiang University                | 2015 |
| • <b>Mathematical Contest In Modeling First Prize</b> , Zhejiang University | 2015 |

## Academic Services

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Review(ed) papers for: CVPR 20 (going to) / AAAI 20 / Neruips 19 / ICCV 19 / CVPR 19