ZHIZHONG LI

https://zhizhongli.vision/

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EDUCATION

University of Illinois at Urbana-Champaign *Aug. 2015 - May 2020*
Ph.D. in Computer Science · Overall GPA: 3.96/4.00

Carnegie Mellon University, Pittsburgh *Aug. 2013 - Dec. 2014*
Master of Science in Robotics · Cumulative GPA: 4.13/4.33

Tsinghua University, Beijing *Aug. 2009 - Jul. 2013*
Bachelor of Science in Automation · Cumulative GPA: 91.52/100 (Top 3%)

WORK EXPERIENCE

Amazon (AGI org) Nov. 2023 - present
Applied Scientist at AGI Foundations, Multi-modal

· A core scientist of the image pre-training team of the Amazon Nova understanding models.

Amazon (AWS org) July 2019 - Oct. 2023
Applied Scientist at AWS Rekognition Custom Labels and AWS Bedrock

· Science owner of the fine-tuning feature of Amazon Titan Multimodal Embeddings.

NVIDIA Corp. May 2019 - Aug. 2019
Research Intern, published Dreaming to Distill

Snap Inc. May 2018 - Aug. 2018
Research Intern, published Task-Assisted Domain Adaptation

Samsung Semiconductor Inc. May 2017 - Aug. 2017
Research Intern, worked on object detection

UIUC Vision Group, main student admin+maintainer of our GPU cluster June 2018 - June 2020

RESEARCH AREAS

My research interests include computer vision and machine learning, especially when involving large language models (LLMs/LVLMs), addressing hallucination, or continual learning. Occasionally, I also work on domain adaptation, transfer learning, and 3D vision.

PUBLICATIONS

The Amazon Nova family of models: Technical report and model card. 2024.
Amazon Artificial General Intelligence
[Paper] ⋄ [Project]

THRONE: An object-based hallucination benchmark for the free-form generations of large vision-language models. In CVPR 2024.
Prannay Kaul, **Zhizhong Li**, Hao Yang, Yonatan Dukler, Ashwin Swaminathan, CJ Taylor, Stefano Soatto.
[Code] ⋄ [Project] ⋄ [Poster]

Addressing Low-Shot MVS by Detecting and Completing Planar Surfaces. In 3DV 2024.
Rajbir Kataria, **Zhizhong Li**, Joseph DeGol, Derek Hoiem.

Class-incremental learning with strong pre-trained models. In CVPR 2022.
Tz-Ying Wu, Gurumurthy Swaminathan, **Zhizhong Li**, Avinash Ravichandran, Nuno Vasconcelos, Rahul Bhotika, Stefano Soatto.
[Code] ⋄ [Project]

Representation Consolidation for Training Expert Students.
Zhizhong Li, Avinash Ravichandran, Charless Fowlkes, Marzia Polito, Rahul Bhotika, Stefano Soatto.

Learning Curves for Analysis of Deep Networks. In ICML 2021.
Derek Hoiem, Tanmay Gupta, **Zhizhong Li**, Michal Shlapentokh-Rothman.

Dreaming to Distill: Data-free Knowledge Transfer via DeepInversion. CVPR 2020 (Oral talk)
Hongxu Yin, Pavlo Molchanov, Jose Alvarez, **Zhizhong Li**, Arun Mallya, Derek Hoiem, N. Jha, and Jan Kautz.
[Code] ⋄ [Project]

Task-Assisted Domain Adaptation with Anchor Tasks. In WACV 2020.
Zhizhong Li, Linjie Luo, Sergey Tulyakov, Qieyun Dai, and Derek Hoiem.

Improving Confidence Estimates for Unfamiliar Examples. In CVPR 2020 (Oral talk)
Zhizhong Li, and Derek Hoiem.

Complete 3D Scene Parsing from an RGBD Image. IJCV 127 (2018): 143-162.
Chuhang Zou, Ruiqi Guo, **Zhizhong Li**, and Derek Hoiem.

Learning without forgetting. In PAMI 2017 and ECCV 2016. (Spotlight talk)
Zhizhong Li, and Derek Hoiem.
[Project] ⋄ [Poster] ⋄ [Spotlight] ⋄ [Code] (Pytorch reimplementation by Arun Mallya)

Domain adaptation for structure recognition in different building styles. In 3DV 2015.
Zhizhong Li, and Daniel Huber.

SELECTED HONORS

Proof of nosiness: NeurIPS 2020 free admission (top 10% reviewers), ICML 2021 free admission (top 10% reviewers)

Comprehensive Scholarship, Tsinghua University (5 out of 149)	*Oct. 2011*
Challenge Cup at Tsinghua University, *Special Prize* (Top 1%)	*Apr. 2011*
Electronic Design Competition at Tsinghua University, *Second Prize* (4th of ∼ 100 teams)	*Dec. 2010*
The NoviCe Programming Contest at Tsinghua University, *Champion* (1st place)	*Apr. 2010*

SKILLS AND MISCELLANEOUS

Language	**Python**, C/C++, MATLAB, Java
Frameworks	**PyTorch**, **scikit-learn**, Gradio, Spark, MatConvNet, Caffe
Miscellaneous	LaTeX, **Vim**, **git**, **docker**

* Regular usage in bold