

LIANGLIANG CAO

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WORK HISTORY

Principal Scientist and Engineering Lead, Apple	11/2022 - now
Staff/Senior Staff Scientist and Senior Manager, Google	10/2018 - 10/2022
Co-founder and CTO, Switi Inc (acquired)	08/2016 - 10/2018
Senior Research Scientist, Yahoo Labs	04/2015 - 08/2016
Research Staff Member, IBM T. J. Watson Research Center	06/2011 - 04/2015

EDUCATION AND ACADEMIA EXPERIENCE

Adjunct Research Associated Professor, UMass Amherst	2018 - 2021
Adjunct Associate Professor, Columbia University in the City of New York	2013 - 2018
Ph.D., University of Illinois at Urbana-Champaign	2006 - 2011
M.Phil., Multimedia Lab, The Chinese University of Hong Kong	2003 - 2005
B. E., Dept. Electronic Engineering, University of Science and Technology of China	1998 - 2003

PROJECTS GROUPED BY AREAS

Natural Language Processing	2014-now
<ul style="list-style-type: none">· Apple Intelligence and Apple Foundation Models (WWDC'24), Modeling and Engineering lead· Switi Inc NLP modeling for enterprise customer (link), Co-founder and CTO· IBM Deep Network for the Watson QA system (link), Researcher	
Computer Vision	2010-now
<ul style="list-style-type: none">· Apple 3D Foundation Models (demo), Project founder and Team lead· Apple Image-Text Foundation Models (research), Researcher· Google Cloud's multimodal APIs (media release), Project founder and Tech lead· Yahoo! Mobile Search (media release), Tech lead· IBM Multimedia Analytics and Search (link), Researcher· NEC-UIUC team to win ImageNet 2010 LSVRC Challenge (link), UIUC sub-team lead	
Speech	2019-2021
<ul style="list-style-type: none">· Google speech recognition on-premise (press release), Tech lead for speech recognition.· Google Cloud Speech API v2 (media release), Modeling lead.· Helped Cloud Speech become the fastest-growing Cloud AI products from 2020-2021 (link), Modeling tech lead.	
Contact Center AI and Cloud AI	2016-2020
<ul style="list-style-type: none">· Google-Verizon contact center AI (link), Tech lead and sales engineer lead	

SELECTED AWARDS

- Google Cloud Feats of Engineering Award, 2019
- ACM SIGMM Rising Star Award, 2017
- IBM Outstanding Accomplishment for Multimedia Team, 2012
- IBM Watson Emerging Leader in Multimedia and Signal Processing, 2010

- First Place in ImageNet Large Scale Visual Recognition Challenge, 2010

PUBLICATION

Google Scholar: <http://scholar.google.com/citations?user=S-hBSfIAAAAJ&hl=en>

Total 9500+ citations, 15+ patents, H-Index 48.

Selected Recent Publications:

1. Y. Jiang, H. Tang, J.-H. Chang, L. Song, Z. Wang, L. Cao, Efficient-3DiM: Learning a Generalizable Single-image Novel-view Synthesizer in One Day, ICLR 2024
2. H. You, H. Zhang, Z. Gan, X. Du, B. Zhang, Z. Wang, L. Cao, S-F Chang, Y. Yang, Ferret: Refer and Ground Anything Anywhere at Any Granularity, ICLR 2024.
3. C. Chen, B. Zhang, L. Cao, J. Shen, T. Gunter, A. M.y Jose, A. Toshev, J. Shlens, R. Pang, Y. Yang, STAIR: Learning Sparse Text and Image Representation in Grounded Tokens, EMNLP 2023.
4. L. Cao, B. Zhang, C. Chen, Y. Yang, X. Du, W. Zhang, Z.n Lu, Y. Zheng Less is More: Removing Text-regions Improves CLIP Training Efficiency and Robustness, arXiv:2305.05095, 2023.
5. T. Dautre, W. Han, M. Ma, Z. Lu, C.-C. Chiu, R. Pang, A. Narayanan, A. Misra, Y. Zhang, L. Cao: Improving Streaming Automatic Speech Recognition With Non-Streaming Model Distillation On Unsupervised Data, ICASSP, 2021.
6. Y. Zhang, D. Park, W. Han, J. Qin, A. Gulati, J. Shor, A. Jansen, Y. Xu, Y. Huang, S. Wang, Z. Zhou, B. Li, M. Ma, W. Chan, J. Yu, Y. Wang, L. Cao, K. C. Sim, B. Ramabhadran, T. Sainath, F. Beaufays, Z. Chen, Q. V. Le, C.-C. Chiu, R. Pang, Y. Wu, BigSSL: Exploring the Frontier of Large-Scale Semi-Supervised Learning for Automatic Speech Recognition, IEEE Journal of Selected Topics in Signal Processing, 2021.
7. Y. Liang, L. Jiang, L. Cao, Y. Kalantidis, L.-J. Li, A. Hauptmann, Focal Visual-Text Attention for Memex Question Answering, IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), Vol.41, No. 8, pp. 1893-1908, 2019.