

# Xin Chen

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## Personal Information

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Google Scholar: <http://scholar.google.com/citations?user=bNou80wAAAAJ>

## Research Interests

Deep Learning, Computer Vision, NLP, Model Optimization, AI in Healthcare

## Education

Ph. D University of Hawaii at Manoa, Honolulu, HI, 2007

MSEE Hefei University of Technology, Hefei, Anhui, China, 2003

## Professional Experience

<i>Machine Learning Software Engineer</i> , Intel Corp., Santa Clara, CA	10/2021 - present
<i>Principal Research Scientist</i> , Kuaishou Technology, Palo Alto, CA	5/2019 - 10/2021
<i>Sr. Software Engineer-Computer Vision</i> , Petuum Inc., Sunnyvale, CA	11/2018 - 5/2019
Emerging Technology Center, Midea Group, San Jose, CA	8/2016 - 11/2018
<i>Staff AI Engineer &amp; Sr. Manager of AI Platform</i>	4/2017 - 11/2018
<i>Sr. AI Engineer</i>	8/2016 - 3/2017
<i>Principal Engineer</i> , NovuMind, Santa Clara, CA	9/2015 - 8/2016
<i>Senior Software Engineer</i> , Hermes Microvision Inc., San Jose, CA	12/2012 - 8/2015
<i>Imaging Scientist</i> , Konica Minolta System USA Lab, San Mateo, CA	11/2011 - 8/2012
<i>Video Engineer</i> , Fairchild Imaging, Milpitas, CA,	6/2009 - 5/2010
<i>Research Intern</i> , Nvidia Corp., Santa Clara, CA	10/2007 - 2/2008

## Academic Appointments

<i>Assistant Computer Scientist</i> , Department of Radiology, Massachusetts General Hospital, Boston, MA	10/2010 - 9/2011
<i>Instructor (Research Faculty)</i> , Harvard Medical School, Boston, MA	10/2010 - 9/2011
<i>Research Associate</i> , Department of Radiology & Biomedical Imaging University of California at San Francisco, San Francisco, CA	3/2008 - 5/2009

## Publications

( \* equal contribution and <sup>‡</sup> corresponding author)

### Peer-Reviewed Conference Papers

- [C1] **Xin Chen**, Yanjun Gao, Hanxian Huang, Yi Wang, Jishen Zhao, Ke Ding, “*Learning to Maximize Mutual Information for Chain-of-Thought Distillation*”, ACL Findings, 2024.
- [C2] Hanxian Huang, **Xin Chen**, Jishen Zhao, “*Fasor: A Fast Tensor Program Optimization Framework for Efficient DNN Deployment*”, International Conference on Supercomputing, 2024.
- [C3] Linfeng Zhang, **Xin Chen**, Runpei Dong, Kaisheng Ma, “*Region-aware Knowledge Distillation for Efficient Image-to-Image Translation*”, BMVC 2023.
- [C4] Yimeng Zhang, **Xin Chen**, Jinghan Jia, Sijia Liu, Ke Ding, “*Text-Visual Prompting for Efficient 2D Temporal Video Grounding*”, IEEE CVPR 2023.
- [C5] Linfeng Zhang, **Xin Chen**, Junbo Zhang, Runpei Dong, Kaisheng Ma, “*Contrastive Deep Supervision*”, ECCV 2022 (Oral, 2.7% acceptable ratio).
- [C6] Yanyu Li, Pu Zhao, Geng Yuan, Xue Lin, Yanzhi Wang, **Xin Chen**<sup>‡</sup>, “*Pruning-as-Search: Efficient Neural Architecture Search via Automatic Channel Pruning and Structural Reparameterization*”, IJCAI-ECAI 2022.
- [C7] Linfeng Zhang, **Xin Chen**, Xiaobing Tu, Pengfei Wan, Ning Xu, Kaisheng Ma, “*Wavelet Knowledge Distillation: Towards Efficient Image-to-Image Translation*”, IEEE CVPR 2022.
- [C8] Miao Liu, **Xin Chen**, Yun Zhang, Yin Li, James M Rehg, “*Attention Distillation for Learning Video Representations*”, BMVC 2020 (Oral, 5% acceptable ratio).
- [C9] Mingze Xu, Aidean Sharghi, **Xin Chen**<sup>‡</sup>, and David J Crandall, “*Fully-Coupled Two-Stream Spatiotemporal Networks for Extremely Low Resolution Action Recognition*”, IEEE WACV 2018.
- [C10] **Xin Chen**, Emma Marriott, and Yuling Yan, “*Motion Saliency Based Automatic Delineation of Glottis Contour in High-speed Digital Images*”, IEEE Industrial Electronics and Applications (ICIEA), 2017.
- [C11] **Xin Chen**, Diane Bless, and Yuling Yan, “*A Segmentation Scheme Based on Rayleigh Distribution Model for Extracting GAW from High-speed Laryngeal Image Sequence*”, IEEE EMBS 2005.
- [C12] Yuling Yan, Diane Bless, and **Xin Chen**, “*Biomedical Image Analysis in High-speed Laryngeal Imaging of Voice Production*”, IEEE EMBS, 2005.
- [C13] Yuling Yan, **Xin Chen**, Kartini Ahmad, and Diane Bless, “*High-speed Laryngeal Imaging Analysis of Vocal Fold Dynamics*”, International Conference on Voice Physiology and Biomechanics - Marseille - August 18-20, 2004.

### Journal Papers

- [J1] Guibo Luo, Tianyu Liu, Jinghui Lu, **Xin Chen**, Lequan Yu, Jian Wu, Danny Z. Chen, Wenli Cai, “*Influence of Data Distribution on Federated Learning Performance in Tumor Segmentation*”, Radiology: Artificial Intelligence, April 2023.
- [J2] Heyi Li, Yunke Tian, Klaus Mueller, and **Xin Chen**<sup>‡</sup>, “*Beyond saliency: understanding convolutional neural networks from saliency prediction on layer-wise relevance propagation*”, Image and Vision Computing, Vol. 83, Page 70-86, 2018.
- [J3] **Xin Chen**, Liang Lin, and Yuefang Gao, “*Parallel Nonparametric Binarization for Degraded Document Images*”, Neurocomputing, Volume 189, 43-52 May 2016.

- [J4] Xiang-Jun Shen, Lei Mu, Zhen Li, Hao-Xiang Wu, Jian-Ping Gou, **Xin Chen**, “*Large-scale support vector machine classification with redundant data reduction*”, Neurocomputing, Vol. 172, Page 189-197 January, 2016.
- [J5] Zhiyong He, **Xin Chen**, and Lining Sun, “*Saliency Mapping Enhanced by Structure Tensor*”, Computational Intelligence and Neuroscience, Volume 2015
- [J6] **Xin Chen**, Yuefang Gao, and Zhonghong Huang, “*CUDA-accelerated fast Sauvola’s method on Kepler architecture*”, Multimedia Tools and Applications, Vol. 74, Issue 24, Page 11809-11820, December 2015.
- [J7] Mathew Blanco, **Xin Chen**, and Yuling Yan, “*A Restricted, Adaptive Threshold Segmentation Approach for Processing High-Speed Image Sequences of the Glottis*”, Engineering, Vol. 5, Page 357-362, 2013.
- [J8] Yuling Yan, **Xin Chen**, and Diane Bless, “*Automatic Tracing of the Vocal Fold Motion from High-speed Laryngeal Images Sequence*”, IEEE Trans. Biomedical Engineering, Vol. 53, No. 7, page 1394-1400, July 2006.

### Granted Patents

- [P1] Zhen Peng, Yang Liu, Hanxian Huang, Yongxiong Ren, YANG Jishen, Lingzhi Liu, **Xin Chen**, Multi-level intermediate representation decoder for heterogeneous platforms, US11928446B2, 3/2024.
- [P2] **Xin Chen**, Zhicai Ou, Hua Zhou, Rubao Mao, Method and system for providing air conditioning, US20210356161A1, 5/2022.
- [P3] **Xin Chen**, Hua Zhou, Yu Zhu, Yuxiang Gao, Personalized Laundry Appliance, US10563338B2, 2/2020.
- [P4] Dongyan Wang, **Xin Chen**, Hua Zhou, Face Recognition in a Residential Environment, US10650273B2, 5/2019.

### Book Chapter

- [B1] Matthew Blanco, **Xin Chen**, Yuling Yan, “*Processing of sequential images of the vibrating glottis using adaptive thresholding approach*”, Normal and Abnormal Vocal Folds Kinematics: High Speed Digital Phonoscopy (HSDP), Optical Coherence Tomography (OCT) & Narrow Band Imaging, pp 143-152, 1 edition, April, 2015. (ISBN-10: 1511401850, ISBN-13: 978-1511401852)

## Honors & Awards

Division Achievement Award for Medical Image Segmentation project, Q3 2022, Intel

Rank #4 in Task 1 of Multi-Modality Abdominal Multi-Organ Segmentation Challenge 2022 (AMOS2022) host by MICCAI2022

Team (Manager) of 2018 IEEE International Low-Power Image Recognition Challenge (LPIRC-II): Rank #2 in Track 2 and Rank #3 in Track 3

2005 University of Hawaii Graduate International Traveling Award

## Invited Talks

*Software Hardware Co-design for AI Acceleration*, Innovation Forums of IEEE MIPR 2022

*How does AI become part of daily life*, Human Cyber Physical Intelligence Integration Lab, Sun Yat-sen University, 2018

## Professional Activities

### *Reviewer for Conferences:*

AAAI 2022 2023 2024  
CVPR 2022 2023 2004  
ECCV 2022 2004  
WACV 2023 2004

### *Reviewer for Journals:*

IEEE Transactions on Multimedia  
Medical Image Analysis  
IEEE Transactions on Image Processing (T-IP)

### *Service*

Moderator of Innovation Forums of IEEE MIPR 2022, Hardware and Software Acceleration for AI Applications

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