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**Education**

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| Sep 2004 - Aug 2008 | Bachelor at Department of Automation, Tsinghua University, Beijing, China. |
| Sep 2008 - Jul 2014 | Ph.D. student at Department of Automation, Tsinghua University, Beijing, China.   * Adviser: Changshui Zhang. * Innovate novel Nystrom sampling technique and its applications in manifold learning. |
| Nov 2012 - Nov 2013 | Visiting Research Scholar at Department of Computer Science and Engineering, Michigan State University, East Lansing, MI 48824, United States.   * Adviser: Rong Jin. * Propose several online random sampling learning methods to accelerate kernel machine without losing generalization performance. |
| Dec 2013 - Jul 2014 | Visiting Research Scholar at School of Computer Science, Carnegie Mellon University, Pittsburgh, PA 15213, United States.   * Adviser: Alexander G. Hauptmann. * Develop multi-source fusion algorithms for video retrieval. |

**Experience**

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| Aug 2014 - Aug 2015 | Postdoctoral Research Fellow at School of Computer Science, Carnegie Mellon University, Pittsburgh, PA 15213, United States.   * Adviser: Alexander G. Hauptmann. * Major developer of the ALADDIN project for video retrieval. |
| Sep 2015 - Mar 2017 | Postdoctoral Research Fellow at Department of Computational Medicine and Bioinformatics. University of Michigan Medical School, Ann Arbor, Michigan 48109, United States.   * Adviser: Jieping Ye. * Theoretical guarantees for learning the second order linear models. * Using machine learning techniques to assist the early diagnosis of Major Depressive Disorder and Alzheimer's disease. |
| Apr 2017- Mar 2018 | Research Investigator at Department of Computational Medicine and Bioinformatics. University of Michigan Medical School, Ann Arbor, Michigan 48109, United States.   * Laboratory management, supervise Ph.D. students, proposal writing, etc. * Early diagnosis of Major Depressive Disorder and Alzheimer's disease. |
| Apr 2018 - Present | Staff Algorithm Engineer in DAMO Academic, Alibaba Group (U.S.), Seattle site.   * Lead a small group of research engineers * Low-cost neural architecture search * Efficient deep learning theories as well as various deep learning applications |

**Research Project**

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| Jul 2014 – Sep 2015 | **Automated Low-Level Analysis and Description of Diverse Intelligence Video (ALADDIN)**   * Develop a large-scale content-based video retrieval system with 47 features including 17 DCNN features. * Our system ranked top-1 in 6 out of 8 tasks in MED 2014. * This project is sponsored by Informedia@CMU. |
| Jan 2015 - Mar 2018 | **The second order linear model: Theories and Applications.**   * Propose a novel model called the Second Order Linear Model (SLM) * The SLM is able to capture high order feature interactions * We applied SLM to Major Depressive Disorder (MDD) prediction and Alzheimer's Disease prediction. * This project is a collaboration work with Janssen Research & Development, LCC. |
| Apr 2018 - Jun 2019 | **Real-time High Precision GPS Grid System**   * Improve GPS precision to 1 centimeter level. * Real-time positioning (1 second per query). |
| Jul 2019 - Jun 2020 | **GPU-Efficient Deep Neural Network**   * Propose a GPU-efficient network GENet which is optimized for fast inference on GPU. * 6.4 times faster than EfficientNet with high precision on ImageNet (Best top-1 accuracy 81.3%). |
| Jul 2020 - Jun 2021 | **Zero-Shot/Zero-Cost Neural Architecture Search**   * Propose Zen-NAS, a novel zero-shot NAS method for high performance deep image recognition. * The searching speed of Zen-NAS is 7800 times faster than EfficientNet while delivering the same or better final architectures using the same design space. * With nearly zero-cost, Zen-NAS achieves 83.6% best top-1 accuracy on ImageNet. * **Zen-NAS is used in the winner solution of WebFace260M Track of ICCV21-MFR.**   **Deep Image Compression**   * Using deep learning technique to learn image compression models. * Better bit rate in both high quality and low quality regimes than JPEG2000 and WebP. |
| July 2021 - Present | **Leading Multiple Ongoing Researches**   * ZenDet: High-performance detection backbone designed by zero-shot NAS. * NAS-Bench-Zero: A large-scale dataset for understanding zero-shot NAS. * Entroformer: Transformer-based deep image compression. * Deep MAD: A **M**athematical **A**rchitecture **D**esign framework for efficient deep learning. * Effective field theory for efficient deep learning. |

**Research Interest**

* High-performance neural architecture design for real-world applications with theoretical guarantees.
* Effective field theory for deep learning.
* Large-scale non-convex optimization and statistical learning theory.
* Real-world applications in computer vision, nature language processing and bioinformatics.

**Peer-Review Service**

* Reviewer of AAAI, IJCAI, ICML, NIPS, ICLR, CVPR, ICCV etc.
* Reviewer of Journals:
  + IEEE Transactions on Pattern Analysis and Machine Intelligence.
  + ACM Transactions on Knowledge Discovery from Data.
  + Pattern Recognition
  + Neurocomputing
  + Computer Vision and Image Understanding.
  + Data Mining and Knowledge Discovery

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2. Ming Lin, Rong Jin, Changshui Zhang. Efficient Sparse Recovery via Adaptive Non-Convex Regularizers with Oracle Property. In Proceedings of the 30th Conference on Uncertainty in Artificial Intelligenre (UAI), Pages 505-514, 2014.
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5. Zhenzhong Lan, Ming Lin, Xuanchong Li, Alexander G. Hauptmann, Bhiksha Raj. Beyond Gaussian Pyramid: Multi-skip Feature Stacking for Action Recognition. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Pages 204-212, 2015.
6. Chuang Gang, Ming Lin, Yi Yang, Alexander G. Hauptmann. Exploring Semantic Inter-Class Relationships (SIR) for Zero-Shot Action Recognition. In Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI), Pages 3769-3775, 2015
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12. Ming Lin, Shuang Qiu, Jieping Ye, Xiaomin Song, Qi Qian, Liang Sun, Shenghuo Zhu, Rong Jin. Which Factorization Machine Modeling is Better: A Theoretical Answer with Optimal Guarantee. The Thirty-Third AAAI Conference on Artificial Intelligence (AAAI), 2019.
13. Ming Lin, Xiaomin Song, Qi Qian, Hao Li, Liang Sun, Shenghuo Zhu, Rong Jin. Robust Gaussian Process Regression for Real-Time High Precision GPS Signal Enhancement. In Proceedings of the 25TH ACM SIGKDD CONFERENCE ON KNOWLEDGE DISCOVERY AND DATA MINING (SIGKDD), 2019.
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