

RESEARCH INTERESTS	My research lies at the intersection of machine learning, data science and computer vision, with a focus on learning structure-aware representations from the real-world data. To that end, my goals are : 1) calibrate ML for real-world data issues towards robust performance ; 2) learn hierarchical representations towards interpretable models ; 3) improve learning efficiency for ML deployment.	
EDUCATION	University of California, Berkeley Ph.D. in Vision Science. Area : Computer Vision. Advisor : Stella X. Yu and Meng C. Lin . Thesis : Structure-Aware Representation Learning and Its Application to Healthcare Certificate in Teaching and Learning in Higher Education.	Aug. 2018 - May 2023
	Xi'an Jiaotong University Bachelor in Electrical Engineering. Visiting student at UC Berkeley from 2017 to 2018.	Aug. 2014 - June 2018
RESEARCH EXPERIENCE	California Institute of Technology <i>Postdoctoral Researcher</i> Advisor : Anima Anandkumar Topics : AI for science, such as applied deep learning to ultrasound, photoacoustic imaging and robotic surgery ; representation learning, world model and their applications to robotics	Pasadena, CA July 2023 - Present
	UC Berkeley <i>Graduate Student Researcher</i> Topics : Real-world representation learning (learning from imperfect data, 3D visual representations and efficient learning), as well as their applications to healthcare (AI for dry eye disease diagnosis)	Berkeley, CA Aug. 2018 - May 2023
HONORS AND AWARDS	Vector Institute Fellowship Best Paper Award, HKSTP Best Paper Award, CVPR PBVS workshop Seagate Fellowship Outstanding Graduate Award, Xi'an Jiaotong University Top 10 Undergraduate Award, Xi'an Jiaotong University National Scholarship of China Meritorious Winner, the International Mathematical Contest in Modeling (top 8%)	2023 2019 2019 2018 2018 2017 2015 - 2017 2016
GRANTS (CO-AUTHORED)	NIH-R21EY033881, "Towards a New Paradigm in Meibomian Gland Evaluation Using AI" (250k) BAIR Commons, "Scene Sketch to Photo Synthesis" Berkeley Deep Drive, "Learning Dynamic Point Set Neighbourhoods for 3D Object Detection"	2022 2021 2020
PREPRINTS	[1] Geometry-Aware Self-Supervised Learning Jiayun Wang* , Yubei Chen*, Stella X. Yu, Yann LeCunn [2] A Machine Learning Approach to Predicting Dry-Eye Related Signs, Symptoms and Diagnoses Tejasvi Kothpalli*, Jiayun Wang* , Andrew D.Graham, Stella X. Yu, Meng C. Lin	
JOURNAL ARTICLES	[1] Open Long-Tailed Recognition in a Dynamic World Ziwei Liu, Zhongqi Miao, Xiaohang Zhan, Jiayun Wang , Boqing Gong, Stella X. Yu <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i> , 2022 [2] Predicting Demographics from Meibography Using Deep Learning Jiayun Wang , Andrew D. Graham, Stella X. Yu, Meng C. Lin <i>Nature - Scientific Reports</i> , 2022. [3] Spatial Transformer for 3D Point Clouds Jiayun Wang , Rudrasis Chakraborty, Stella X. Yu <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i> , 2021 [4] Quantifying Meibomian Gland Morphology Using Artificial Intelligence Jiayun Wang , Shixuan Li, Thao N. Yeh, Rudrasis Chakraborty, Andrew D. Graham, Stella X. Yu, Meng C. Lin <i>Optometry and Vision Science</i> , 2021 [5] A Deep Learning Approach for Meibomian Gland Atrophy Evaluation in Meibography Images Jiayun Wang , Thao N. Yeh, Rudrasis Chakraborty, Stella X. Yu, Meng C. Lin <i>Translational Vision Science and Technology (TVST)</i> , 2019	

Generate Photos and 3D from Sketches

- Bosch-ICSI Research Seminar Aug. 2022
- Seminar at Amazon FitScience Team June 2022

Redundancy and Compression in Deep Neural Networks

- Berkeley Oxyopia Seminar Nov. 2021
- Berkeley MRI Seminar Sep. 2021

Learning to Diagnose Dry Eye Diseases from Clinicians

- Seminar at Berkeley Vision Science Retreat Nov. 2019

MENTORSHIP

Subin Rachael Kim, undergraduate at Caltech. Active.
Prashanth Mohan, undergraduate at Caltech. Active.
Martin Zhai, undergraduate at UC Berkeley. Next : Master at Cornell University.
Jasmine Li, undergraduate at University of Washington. Next : Master at University of Washington.
Tejasvi Kothpalli, undergraduate at UC Berkeley. Next : PhD at UC Berkeley.
Shixuan Wayne Li, undergraduate at UC Berkeley. Next : Master at Brown University.

SERVICE AND LEADERSHIP

Reviewer : CVPR, ICCV, ECCV, SIGGRAPH, NeurIPS, ICLR, ICML, AAAI, BMVC, WACV, ACCV, IEEE-TPAMI, IEEE-TIP, IEEE-JSTARS, IEEE-JBHI, IEEE-Access, ACM Comp Surv., ACM TOMM, PLOS One, OVS, TVST, Current Medical Imaging, Contact Lens and Anterior Eye
Program Committee Member : AAAI
Member : Berkeley Diversity, Equity, Inclusion, and Belonging (DEIB) Committee 2022 - 2023
Program Committee Chair : Bay Area Vision Research Day (BAVRD) 2019
Mentor, Berkeley AI Research Mentoring Program 2022 - 2023
Vice President, [Chinese Graduate and Postdoctoral Scholars Association](#) at UC Berkeley 2019 - 2021

INDUSTRIAL EXPERIENCE

Aizip Cupertino, CA
Founding Member, Research Scientist (part-time) Oct 2020 - Present

- Participating in core projects towards robust, efficient and scalable real-world AI-IoT solutions
- Working on full-stack machine learning and delivered robust models and products to customers
- Built the tiniest human detection system with robust performance under different lighting conditions

Amazon Sunnyvale, CA
Applied Scientist Intern May 2022 - Nov. 2022

- Mentors : [Dr. Himanshu Arora](#) and [Dr. Amin Kheradmand](#)
- Developed multi-view human reposing and virtual try-on system that beats state-of-the-art methods
- The work has been submitted to CVPR, and as a patent application

Aibee Palo Alto, CA
Research Intern May 2020 - Aug. 2020

- Mentors : [Dr. Song Cao](#) and [Prof. Silvio Savarese](#)
- Developed novel algorithms for fine-grained long-tailed vehicle recognition and improved minority class accuracy by 20%

Sensetime Shenzhen, China
Research Intern Feb. 2018 - Aug. 2018

- Developed an RGBD-camera-based 3D portrait animation product, which was featured in Vivo's 2018 latest smartphone model
- Developed efficient classification algorithms for long-tailed fine-grained data and ranked 6th in [CVPR 2018 Fine-grained Visual Categorization Competition](#)
- Proposed novel deep networks for efficient point cloud detection and improved 4% performance

REFERENCES

- [1] Anima Anandkumar, anima@caltech.edu
Bren Professor of Computing and Mathematical Sciences, California Institute of Technology
Senior Director of Machine Learning Research, NVIDIA
- [2] Andrew J. Hung, andrew.hung@cshs.org
Vice Chair of Academic Development, Department of Urology, Cedars Sinai
- [3] Stella X. Yu, stellayu@umich.edu
Professor of Electrical Engineering and Computer Sciences, University of Michigan, Ann Arbor
Adjunct Professor of Electrical Engineering and Computer Sciences, UC Berkeley

- [4] Meng C. Lin, mlin@berkeley.edu
Professor of Herbert Wertheim School of Optometry and Vision Science, UC Berkeley
- [5] Yubei Chen, yubeichen@nyu.edu
Assistant Professor of Electrical and Computer Engineering, UC Davis
- [6] Yuan Lu, yuan@aizip.ai
President of Aizip, Inc.