

Mengmi ZHANG

Lab website: Deep NeuroCognition Lab

Email : a0091624@gmail.com

Google Scholar, Twitter

Nanyang Ave, N3-02c-89,
College of Computing and Data Science,
NTU, Singapore, 639798

Research Interests:
neuroscience-inspired AI, computer vision
computational neuroscience, cognitive science

EDUCATION

- | | |
|--|------------------------------|
| National University of Singapore | Singapore |
| • <i>Ph.D. in Electrical and Computer Engineering; GPA: 3.70/4.0</i> | <i>Aug, 2015 - Jan, 2019</i> |
| Thesis Advisors: Shih-Cheng Yen, Joo Hwee Lim, Jiashi Feng, Qi Zhao, Gabriel Kreiman | |
| Harvard Medical School, Children's Hospital | MA, USA |
| • <i>Visiting Ph.D. student</i> | <i>Aug, 2017 - Sep, 2018</i> |
| Advisor: Gabriel Kreiman | |
| National University of Singapore | Singapore |
| • <i>BEng in Electrical and Computer Engineering (1st Class Honors); GPA: 3.86/4.0</i> | <i>Aug, 2011 - Jul, 2015</i> |
| Dean's List (top 5% of the cohort) for ALL Academic Years | |
| University of California, Santa Barbara | CA, USA |
| • <i>Visiting undergraduate; GPA: 4.0/4.0</i> | <i>Jan, 2014 - Apr, 2014</i> |
| Dean's Honors Award | |

WORK EXPERIENCE

- | | |
|--|------------------------------|
| Nanyang Technological University (NTU) | Singapore |
| • <i>Tenure-track Nanyang assistant professor</i> | <i>Nov, 2023 - Present</i> |
| College of Computing and Data Science | |
| Agency for Science, Technology and Research (A*STAR) | Singapore |
| • <i>Principal scientist and principal investigator in Institute for Infocomm Research</i> | <i>Sep, 2021 - Apr, 2025</i> |
| Early career investigator in Center for Frontier of AI Research (CFAR) | |
| | <i>May, 2022 - Jan, 2024</i> |
| Harvard-MIT Center for Brains, Minds and Machines | MA, USA |
| • <i>Research fellow in Harvard Medical School, Children's Hospital</i> | <i>Jun, 2019 - Aug, 2021</i> |
| Advisor: Gabriel Kreiman | |

GRANTS

- | | |
|--|------------------------------|
| Startup Grant (0.3 million SGD equivalent to 220k USD) | |
| • <i>Nanyang Technological University (NTU), Singapore</i> | <i>Nov, 2023 - present</i> |
| Singapore NRF Fellowship (3 million SGD equivalent to 2.18 million USD) | |
| • <i>National Research Foundation (NRF), Singapore</i> | <i>Apr, 2023 - present</i> |
| as prestigious as NSF Career Award and NIH RO1 in the USA | |
| Startup Grant (0.5 million SGD equivalent to 370k USD) | |
| • <i>Agency for Science, Technology and Research (A*STAR), Singapore</i> | <i>Jan, 2021 - Mar, 2023</i> |
| CONFIRMA Grant (1.5 million SGD equivalent to 1.1 million USD) | |
| • <i>Agency for Science, Technology and Research (A*STAR), Singapore</i> | <i>Apr, 2023 - Apr, 2025</i> |
| AISG Research Grant (1 million SGD equivalent to 740k USD) | |
| • <i>National Research Foundation (NRF) AI Singapore, Singapore</i> | <i>Apr, 2022 - Mar, 2025</i> |
| Early Career Investigatorship (0.25 million SGD equivalent to 180k USD) | |
| • <i>Center for Frontier AI Research (CFAR), A*STAR, Singapore</i> | <i>May, 2022 - Apr, 2024</i> |

SCHOLARSHIPS

- **Astar Graduate Scholarship and Postdoctoral Fellowship**
Agency for Science, Technology and Research, Singapore 2015 - 2021
- **Harvard Brain Initiative Young Scientist Development Scholarship** (with Farahnaz Ahmed Wick)
Harvard Brain Science Initiative, Harvard University, MA, USA April, 2018
- **University of Tokyo Summer Research Program Scholarship**
University of Tokyo, Tokyo, Japan May, 2014 - Jul, 2014
- **NUS and Ministry of Education Undergraduate Scholarship**
National University of Singapore, Singapore Aug, 2011 - Jul, 2015

AWARDS

- **Singapore 100 Women in Tech**
Singapore Computer Society 2023
- **Semi-finalist for MIT Technology Review Innovators Under 35**
MIT Technology Review 2022
- **Semi-finalist for the Reachout Science Slam (12 NSF science and technology centers)**
Museum of Science, Boston, MA, USA 2021
- **Championship Award and Theory of Flight Award**
Singapore Amazing Flying Machine Competition, Singapore 2015
- **Faculty of Engineering 29th Innovation and Research Award (Merit Award)**
National University of Singapore, Singapore 2015
- **Best Presentation Award**
The 5th International Conference on Networking and Information Technology, Singapore 2014

MENTORSHIP

- **PhD students**
 - **Gexin Guo** : Nanyang Technological University, Singapore Oct, 2025 - present
 - **Shidi Chen** : Nanyang Technological University, Singapore Sep, 2025 - present
 - **Soumick Sarker** : Nanyang Technological University, Singapore Aug, 2025 - present
 - **Dakshesh Gusain** : Nanyang Technological University, Singapore Aug, 2025 - present
 - **Siddhant Dutta** : Nanyang Technological University, Singapore Aug, 2025 - present
 - **Zhengquan Zhang** : Nanyang Technological University, Singapore Nov, 2024 - present
 - **Cathy Yusen Cai** : Nanyang Technological University, Singapore Aug, 2024 - present
 - **Yanhao Jia** : Nanyang Technological University, Singapore Aug, 2024 - present
 - **Yang Shen** : Nanyang Technological University, Singapore Aug, 2024 - present
 - **Shuangpeng Han** : Nanyang Technological University, Singapore Aug, 2023 - present
 - **Ziyu Wang** : National University of Singapore Aug, 2022 - present
 - **Maytus Piriyaジットakonkij** : University of Manchester, UK Sep, 2023 - present
 - **Xu Wu** : Nanyang Technological University, Singapore Apr, 2024 - Apr, 2025
 - **Weronika Hryniewska-Guzik** : Nanyang Technological University, Singapore Oct, 2024 - Dec, 2024
 - **Jie Jing** : Nanyang Technological University, Singapore Sep, 2023 - Apr, 2025
 - **Bo Wang** : Nanyang Technological University, Singapore Sep, 2023 - Sep, 2024
 - **Zhengyang Jin** : Nanyang Technological University, Singapore Aug, 2023 - Nov, 2023
 - **Morgan B. Talbot** : Harvard Medical School, USA fall, 2021 - spring, 2022
 - **Spandan Madan** : Harvard University, USA fall, 2021 - spring, 2022
 - **Zhangjie Wu** : National University of Singapore, Singapore fall, 2021
 - **Zhiwei Ding** : Baylor College of Medicine, USA summer, 2021
- **Master students**
 - **Serena Wang** : Nanyang Technological University, Singapore Aug, 2025 - present
 - **Xiao Liu** : National University of Singapore, Singapore Jun, 2022 - Sep, 2022

- **Xuezhe Ren** : Singapore Management University, Singapore *Jan, 2022 - Dec, 2022*
- **Philipp Bomatter** : ETH Zürich, Switzerland *fall, 2020 - spring, 2021*
- **Shashi Kant Gupta** : Indian Institute of Technology, India *summer, 2019 - spring, 2021*
- **College students**
 - **Yong Jian Ng** : Nanyang Technological University, Singapore *fall, 2024 - spring, 2025*
 - **Yongjian Huang** : Nanyang Technological University, Singapore *fall, 2024 - spring, 2025*
 - **S Jivaganesh** : Nanyang Technological University, Singapore *fall, 2024 - spring, 2025*
 - **Dingwei Tan** : Nanyang Technological University, Singapore *Jul, 2024 - Oct, 2024*
 - **Bryan Atista Kiely** : Nanyang Technological University, Singapore *May, 2024 - Aug, 2024*
 - **Mingzhong Sun** : Nanyang Technological University, Singapore *May, 2024 - Aug, 2024*
 - **Sarmarth Verma** : National University of Singapore, Singapore *Jun, 2022 - Aug, 2023*
 - **Narain Aakash** : National University of Singapore, Singapore *May, 2023 - Aug, 2023*
 - **Matthias Koh** : National University of Singapore, Singapore *Jun, 2022 - Aug, 2022*
 - **Li You** : University of Wisconsin, Madison, USA *Jan, 2022 - Nov, 2022*
 - **Arshika Lalan** : Birla Institute of Technology and Science, India *fall, 2021 - summer, 2022*
 - **Rushikesh Zawar** : Birla Institute of Technology and Science, India *fall, 2021 - spring, 2022*
 - **Dimitar Karev** : Harvard University, USA *fall, 2020 - spring, 2021*
 - **Rohil Badkundri** : Harvard University, USA *summer, 2020*
 - **Leonard Tang** : Harvard University, USA *spring, 2020*
 - **Claire Tseng** : Harvard University, USA *summer, 2019 - spring, 2021*
 - **Cameron Rivera** : University of Wisconsin, Madison, USA *summer, 2018*
 - **Karla Montejo** : Florida International University, USA *summer, 2018*
 - **Joseph Kwon** : Yale University, USA *summer, 2018*
- **Junior College students**
 - **Ren Jie Tee** : Hwa Chong Institution, Singapore *2022-2024*
 - **Aurelia Azifa Chelfannisa** : Victoria Junior College, Singapore *2022*
 - **Mabel Neoh Jia Ying** : Hwa Chong Institution, Singapore *2022*
 - **Tay Wen Hwee Elena** : Hwa Chong Institution, Singapore *2021*
- **Research engineers**
 - **Vinayaka R Kamath** : Agency for Science, Technology and Research (A*STAR) *Nov, 2023 - May, 2024*
 - **Parantak Singh** : Agency for Science, Technology and Research (A*STAR) *Apr, 2022 - Apr, 2024*
 - **Naitik Khandelwal** : Agency for Science, Technology and Research (A*STAR) *Oct, 2022 - Jun, 2024*
 - **Ankur Sikarwar** : Agency for Science, Technology and Research (A*STAR) *Oct, 2022 - Jul, 2024*
 - **Xiao Liu** : Agency for Science, Technology and Research (A*STAR) *Sep, 2022 - present*
- **Research scientists and postdoctoral fellows**
 - **Zenglin Shi** : Agency for Science, Technology and Research (A*STAR) *Oct, 2022 - Jul, 2023*
 - **Shui'Er Han** : Agency for Science, Technology and Research (A*STAR) *Feb, 2023 - Feb, 2025*
 - **Qing Lin** : Nanyang Technological University, Singapore *Aug, 2023 - present*
 - **Weicheng Tao** : Nanyang Technological University, Singapore *Nov, 2024 - present*

AWARDS TO MENTEES

- **Best Poster Award at NTU Researchers' Day in Singapore**
 - Qing Lin from Nanyang Technological University, Singapore* *2025*
- **Global Winner at Global Undergraduate Awards (GUA) for his Final Year Project**
 - Ng Yong Jian from Nanyang Technological University, Singapore* *2025*
- **Best Paper Award at Singapore Intelligence, Robotics and Control Symposium**
 - Shuangpeng Han from Nanyang Technological University, Singapore* *2025*
- **Silver Award at Research Fair**
 - Aurelia Azifa Chelfannisa from Victoria Junior College, Singapore* *2023*
- **Fujitsu Laboratories Fellowship for MIT-Harvard Centre for Brains, Minds and Machines**
 - Ankur Sikarwar from Agency for Science, Technology and Research (A*STAR)* *2023*

WHERE MENTEES GO NEXT

- **PhD student at Mila and University of Montreal, Canada**
Ankur Sikarwar (former research engineer) 2024
- **Master student at Carnegie Mellon University, USA**
Naitik Khandelwal (former research engineer) 2024
- **Professor at Hefei University of Technology, China**
Zenglin Shi (former research scientist) 2023
- **College student at University of Wisconsin-Madison, USA**
Li You (former junior college student) 2022
- **Data scientist at OCBC Bank, Singapore**
Xuezhe Ren (former master student) 2022

TEACHING

- **SC5002: AI Fundamentals and Applications** Faculty Lecturer and Course Coordinator
Nanyang Technological University, Singapore fall, 2024; fall, 2025
- **SC1005: Digital Logic** Faculty Lab Assistant
Nanyang Technological University, Singapore fall, 2024; fall, 2025
- **SC2103: Digital Systems Design** Faculty Teaching Assistant
Nanyang Technological University, Singapore spring, 2023-2024
- **Center for Brains, Minds and Machines Summer Course** Head Teaching Assistant
MIT, Boston, USA summers, 2020 - 2025
- **Neuro 140 and 240: Biological and Artificial Intelligence** Head Teaching Assistant
Harvard University, Boston, USA spring, 2020
- **EE4302: Advanced Control System** Teaching Assistant
National University of Singapore, Singapore summer, 2016

ACADEMIC ACTIVITIES

Reviewers for Conferences: ACM Multimedia (**ACMMM**); Neural Information Processing Systems (**NeurIPS**); Conference on Association for the Advancement of Artificial Intelligence (**AAAI**); The International Conference on Learning Representations (**ICLR**); The IEEE Computer Vision and Pattern Recognition Conference (**CVPR**); The International Conference on Computer Vision (**ICCV**); The IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**); European Conference on Computer Vision (**ECCV**); International Conference on Machine Learning (**ICML**)

Reviewers for Journals: IEEE Transactions on Image Processing (**TIP**); Sensors; Proceedings of the National Academy of Sciences of the United States of America (**PNAS**); IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**); Journal of Artificial Intelligence Research (**JAIR**); IEEE Transactions on Medical Imaging (**TMI**); Nature Machine Intelligence; PLoS Computational Biology; Communications Psychology

Editors for Journals: Vision Research - Special Issue on Mathematical and Computational Models in Vision; International Journal of Computer Vision (IJCV) - Special Issue on Human-Inspired Computer Vision

Chairs and Organizers for Conferences and Workshops

- Area Chair in International Conference on Learning Representations (**ICLR**), 2026
- Workshop Organizer in International Conference on Computer Vision (**ICCV**), 2025
- Area Chair in Neural Information Processing Systems (**NeurIPS**), 2025
- Area Chair in International Conference on Machine Learning (**ICML**), 2025
- Workshop Organizer in Conference on Computer Vision and Pattern Recognition (**CVPR**), 2025
- Area Chair in International Conference on Learning Representations (**ICLR**), 2025
- Conference Organizer in the 16th Asia Pacific Conference on Vision (**APCV**), 2024

- Workshop Organizer in European Conference on Computer Vision (**ECCV**), 2024
- Area Chair in Neural Information Processing Systems (**NeurIPS**), 2024
- Publication Chair in IEEE Conference on Artificial Intelligence (**IEEE CAI**), 2024
- Area Chair in International Conference on Learning Representations (**ICLR**), 2024
- Area Chair in Neural Information Processing Systems (**NeurIPS**), 2023
- Track Chair in AAAI Conference on Artificial Intelligence Symposium (**AAAI symposium**), 2023

Memberships: IEEE; Singapore Computer Society; IEEE Computational Intelligence Society

Grant Reviewers

- AI3 HTCO Seed Fund from Agency for Science, Technology and Research (A*STAR), Singapore, 2022
- LEARN Grant and Innovation Award from Nanyang Technological University, Singapore, 2023
- Ministry of Education Tier 1 Grant, Singapore, 2025

Other school services: PhD Thesis Examiners, PhD Thesis Defense Panel Members, Datathon Judging in NTU Business Analytics Club

OTHER SERVICES

- **Women In Tech (WIT) WOMENtors Summit**
Nanyang Technological University, Singapore *Jun, 2024-Aug, 2024*
- **Ministry of Education (MOE) H3 Research Program**
Hwa Chong Institution and Victoria Junior College, Singapore *May, 2022-Feb, 2023*
- **Ministry of Education (MOE) Scientist-in-School Program**
Millennia Institute, Singapore *Jan, 2022-Feb, 2023*
- **A*STAR Junior College Student Attachment Program**
Hwa Chong Institution, Singapore *Nov, 2021-Dec, 2021*
- **Undergraduate Research Experience on Campus (URECA) Program**
Nanyang Technological University, Singapore *2023-present*

INVITED TALKS

- Talk at **University of Washington**, Seattle, USA, 2025
- Talk at Allen Institute for AI (**Ai2**), Seattle, USA, 2025
- Talk at APNSC and Hong Kong Student Association of Neuroscience Conference, Hong Kong, China, 2025 (virtual)
- Talk at **sfN.SG** Neuroscience & Artificial Intelligence Mini Symposium in conjunction with **ICLR**, Singapore, 2025
- Talk at Intelligence, Robotics and Control Symposium, Singapore, 2025
- Talk at Human-inspired Computer Vision Workshop in European Conference on Computer Vision (**ECCV**), Italy, 2024
- Talk at **IIT** (Istituto Italiano di Tecnologia), Genova, Italy, 2024
- Talk at Serre Lab in **Brown** University, Providence, USA, 2024
- Talk at Visual Search and Attention Workshop in Nanyang Technological University, Singapore, 2024
- Talk at Asian Advanced Workshop on Social Decision Making and Collective Intelligence in Tokyo, Japan, 2023
- Talk at Research Seminar Series (school-level), **Beijing Jiaotong** University, China, 2023
- Talk at School of Social Sciences Research Cluster, Nanyang Technological University, Singapore, 2023
- Talk at **AAAI** symposium on embodied social intelligence, Singapore, 2023
- Talk at Singapore Vision Day, National University of Singapore, 2023

- Talk at Institute for AI and Beyond, **University of Tokyo**, Japan, 2023
- Talk at Artificial Intelligence Research Centre (AIRC) of **AIST**, Tokyo, Japan, 2023
- Talk at Center for Advanced Intelligence Project (AIP) at **RIKEN**, Tokyo, Japan, 2023
- Talk at Science of Intelligence, **Technical University Berlin**, Germany, 2022 (virtual)
- Talks at **Harvard-MIT** Center for Brains, Minds, and Machines, USA, 2019-2021
- Talk at **Pengcheng Lab** at Shenzhen, China, 2019
- Talk at Wolfe Lab, **Harvard** Medical School and Brigham & Women's Hospital, Boston, USA, 2018

WORKS IN PROGRESS

- [1] Learning to See Through a Baby's Eyes: Early Visual Diets Enable Robust Visual Intelligence in Humans and Machines
*Cathy Yusen Cai, Qing Lin, Bhargava Satya Nunna, **Mengmi Zhang***
under review, 2025
- [2] From Grunts to Grammar: Emergent Language from Cooperative Foraging
*Maytus Piriya-jitakonkij, Rujikorn Charakorn, Weicheng Tao, Wei Pan, Mingfei Sun, Cheston Tan, **Mengmi Zhang***
under review, 2025
- [3] The other you in Black Mirror: first steps from chatbots to personalized LLM clones
*Mingzhong Sun, **Mengmi Zhang**, Gabriel Kreiman*
under review, 2025
- [4] Unforgettable Lessons from Forgettable Images: Intra-Class Memorability Matters in Computer Vision Tasks
*Jie Jing, Qing Lin, Shuangpeng Han, Lucia Schiatti, Yen-Ling Kuo, **Mengmi Zhang***
under review, 2024
- [5] TTA-Nav: Test-time Adaptive Reconstruction for Point-Goal Navigation under Visual Corruptions
*Maytus Piriya-jitakonkij, Mingfei Sun, **Mengmi Zhang**, Wei Pan*
under review, 2024
- [6] Reason from Context with Self-supervised Learning
*Xiao Liu, Ankur Sikarwar, Joo Hwee Lim, Gabriel Kreiman, Zenglin Shi, **Mengmi Zhang***
under review, 2023
- [7] Human or Machine? Turing Tests for Vision and Language
***Mengmi Zhang**, Giorgia Dellaferriera, Ankur Sikarwar, Marcelo Armendariz, Noga Mudrik, Prachi Agrawal, Spandan Madan, Andrei Barbu, Haochen Yang, Tanishq Kumar, Meghna Sadwani, Stella Dellaferriera, Michele Pizzochero, Hanspeter Pfister, Gabriel Kreiman*
under review, 2023
- [8] Efficient Zero-shot Visual Search via Target and Context-aware Transformer
*Zhiwei Ding, Xuezhe Ren, Erwan David, Melissa Vo, Gabriel Kreiman, **Mengmi Zhang***
under review, 2023
- [9] On the utility of the human visual diet in enabling generalization to real-world transformations
*Spandan Madan, Li You, **Mengmi Zhang**, Hanspeter Pfister, Gabriel Kreiman*
under review, 2023

- [1] Peering into the Unknown: Active View Selection with Neural Uncertainty Maps for 3D Reconstruction
Zhengquan Zhang, Feng Xu, Mengmi Zhang
International Conference on Learning Representations (**ICLR**), 2026
- [2] Unsupervised Prior Learning: Discovering Categorical Pose Priors from Videos
Ziyu Wang, Shuangpeng Han, Mengmi Zhang
International Conference on Learning Representations (**ICLR**), 2026
- [3] Seeing Sound, Hearing Sight: Uncovering Modality Bias and Conflict of AI models in Sound Localization
Yanhao Jia, Ji Xie, S Jivaganesh, Hao Li, Xu Wu, Mengmi Zhang
Conference on Neural Information Processing Systems (**NeurIPS**), 2025 (**Spotlight**)
- [4] Make Me Happier: Evoking Emotions Through Image Diffusion Models
Qing Lin, Jingfeng Zhang, Yew Soon Ong, Mengmi Zhang
International Conference on Computer Vision (**ICCV**), 2025
Best poster award at Nanyang Technological University Researchers' Day in Singapore, 2025
- [5] Unveiling AI's Blind Spots: An Oracle for In-Domain, Out-of-Domain, and Adversarial Errors
Shuangpeng Han, Mengmi Zhang
International Conference on Machine Learning (**ICML**), 2025
- [6] Unveiling the Tapestry: the Interplay of Generalization and Forgetting in Continual Learning
Zenglin Shi, Jie Jing, Ying Sun, Joo Hwee Lim, Mengmi Zhang
IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**), 2025, (**impact factor: 14.3**)
- [7] Gazing at Rewards: Eye Movements as a Lens into Human and AI Decision-Making in Hybrid Visual Foraging
Bo Wang, Dingwei Tan, Yen-Ling Kuo, Zhaowei Sun, Jeremy M. Wolfe, Tat-Jen Cham, Mengmi Zhang
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2025
Featured in **MIT Technology Review**
- [8] Flow Snapshot Neurons in Action: Deep Neural Networks Generalize to Biological Motion Perception
Shuangpeng Han, Ziyu Wang, Mengmi Zhang
Conference on Neural Information Processing Systems (**NeurIPS**), 2024
Best paper award at Singapore Intelligence, Robotics and Control Symposium, 2025
- [9] Adaptive Visual Scene Understanding: Incremental Learning in Scene Graph Generation
Naitik Khandlewal, Xiao Liu, Mengmi Zhang
Conference on Neural Information Processing Systems (**NeurIPS**), 2024
- [10] Tuned Compositional Feature Replays for Efficient Stream Learning
Morgan B. Talbot, Rushikesh Zawar*, Rohil Badkundri, Mengmi Zhang[#], Gabriel Kreiman[#]* (* equal contribution; [#] co-corresponding)
IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**), 2023, (**impact factor: 14.3**)
- [11] Object-centric Learning with Cyclic Walks between Parts and Whole
Ziyu Wang, Mike Zheng Shou, Mengmi Zhang
Conference on Neural Information Processing Systems (**NeurIPS**), 2023
- [12] Decoding the Enigma: Benchmarking Humans and AIs on the Many Facets of Working Memory
Ankur Sikarwar, Mengmi Zhang
Conference on Neural Information Processing Systems (**NeurIPS**), 2023
- [13] Training-free Object Counting with Prompts
Zenglin Shi, Ying Sun, Mengmi Zhang
IEEE Winter Conference on Applications of Computer Vision (**WACV**), 2023

- [14] Learning to Learn: How to Continuously Teach Humans and Machines
Parantak Singh, You Li, Ankur Sikarwar, Weixian Lei, Daniel Gao, Morgan Bruce Talbot, Ying Sun, Mike Zheng Shou, Gabriel Kreiman, Mengmi Zhang
 International Conference on Computer Vision (ICCV), 2023
- [15] Label-efficient Online Continual Object Detection in Streaming Video
Jay Zhangjie Wu, David Junhao Zhang, Wynne Hsu, Mengmi Zhang, Mike Zheng Shou
 International Conference on Computer Vision (ICCV), 2023
- [16] Symbolic Replay: Scene Graph as Prompt for Continual Learning on VQA Task
Stan Weixian Lei, Difei Gao, Jay Zhangjie Wu, Yuxuan Wang, Wei Liu, Mengmi Zhang, Mike Zheng Shou
 AAAI Conference on Artificial Intelligence (AAAI), 2023 (oral presentation)
- [17] Look Twice: A Generalist Computational Model Predicts Return Fixations across Tasks and Species
Mengmi Zhang, Marcelo Armendariz*, Will Xiao, Olivia Rose, Katarina Bendtz, Margaret Livingstone, Carlos Ponce, Gabriel Kreiman (* equal contribution)*
PLOS Computational Biology, 2022 (impact factor: 4.8)
- [18] Artificial Intelligence and Vision
Will Xiao, Mengmi Zhang, Gabriel Kreiman
 Free will, philosophers and neuroscientists in conversation, Oxford University Press, (Book Chapter), 2021
- [19] Visual Search Asymmetry: Deep Nets and Humans Share Similar Inherent Biases
Shashi Kant Gupta, Mengmi Zhang, Chia-Chien Wu, Jeremy M. Wolfe, Gabriel Kreiman
 Conference on Neural Information Processing Systems (NeurIPS), 2021
- [20] Beauty is in the eye of the machine
Mengmi Zhang, Gabriel Kreiman
Nature Human Behavior, 2021 (impact factor: 12.28)
- [21] When Pigs Fly: Contextual Reasoning in Synthetic and Natural Scenes
Philipp Bomatter, Mengmi Zhang*, Dimitar Karev, Spandan Madan, Claire Tseng, Gabriel Kreiman (* equal contribution)*
 International Conference on Computer Vision (ICCV), 2021
- [22] Putting Visual Object Recognition in Context
Mengmi Zhang, Claire Tseng, Gabriel Kreiman
 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020
- [23] Anticipating Where People Will Look Using Adversarial Networks
Mengmi Zhang, Keng Teck Ma, Joo Hwee Lim, Qi Zhao, Jiashi Feng
 IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2018 (impact factor:18)
- [24] Finding any Waldo with zero-shot invariant and efficient visual search
Mengmi Zhang, Jiashi Feng, Keng Teck Ma, Joo Hwee Lim, Qi Zhao, and Gabriel Kreiman
Nature Communications, 2018 (impact factor: 12.4) PhysOrg
- [25] Egocentric Spatial Memory
Mengmi Zhang, Keng Teck Ma, Shih-Cheng Yen, Joo Hwee Lim, Qi Zhao, and Jiashi Feng
 International Conference on Intelligent Robots and Systems (IROS), 2018
- [26] Deep Future Gaze: Gaze Anticipation on Egocentric Videos Using Adversarial Networks
Mengmi Zhang, Keng Teck Ma, Joo Hwee Lim, Qi Zhao, Jiashi Feng
 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017 (oral presentation)

OTHER PUBLICATIONS (WORKSHOPS, SYMPOSIUMS, AND PRE-PRINTS)

- [1] Improving out-of-distribution generalization by mimicking the human visual diet
Spandan Madan, You Li, Mengmi Zhang, Hanspeter Pfister, Gabriel Kreiman
Conference on Neural Information Processing Systems Workshop (**NeurIPS workshop**), 2024
- [2] Object-Centric Temporal Consistency via Conditional Autoregressive Inductive Biases
Cristian Meo, Akihiro Nakano, Mircea Lică, Aniket Didolkar, Masahiro Suzuki, Anirudh Goyal, Mengmi Zhang, Justin Dauwels, Yutaka Matsuo, Yoshua Bengio
Conference on Neural Information Processing Systems Workshop (**NeurIPS workshop**), 2024
- [3] Integrating Curricula with Replays: Its Effects on Continual Learning
Ren Jie Tee, Mengmi Zhang
AAAI Conference on Artificial Intelligence Symposium (**AAAI symposium**), 2023
- [4] What am I Searching for: Zero-shot Target Identity Inference in Visual Search
Mengmi Zhang, Gabriel Kreiman
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR workshop**), 2020
- [5] Variational Prototype Replays for Continual Learning
Mengmi Zhang, Tao Wang, Joo Hwee Lim, Gabriel Kreiman, Jiashi Feng
<https://arxiv.org/pdf/1905.09447.pdf>, 2020 (**on arxiv; citations: 30**)
- [6] Lift-the-flap: what, where and when matter for context reasoning
Mengmi Zhang, Claire Tseng, Karla Montejo, Joseph Kwon, Gabriel Kreiman
<https://arxiv.org/abs/1902.00163>, 2019 (**on arxiv**)
- [7] Foveated Neural Network: Gaze Prediction on Egocentric Videos
Mengmi Zhang, Keng Teck Ma, Joo Hwee Lim, Qi Zhao
IEEE International Conference on Image Processing (**ICIP**), 2017
- [8] A High Fidelity Simulator for a Quadrotor UAV using ROS and Gazebo
Mengmi Zhang, Hailong Qin, Menglu Lan, Jiaxin Lin, Shuai Wang, Kaijun Liu, Feng Lin, Ben M. Chen
Annual Conference of the IEEE Industrial Electronics Society (**IECON**), 2015
- [9] Vision-based Detection and Pose Estimation for Formation of Micro Aerial Vehicles
Mengmi Zhang, Feng Lin., Ben M. Chen
IEEE International Conference on Control, Automation, Robotics and Vision Conference (**ICARCV**), 2014

REFEREES

• Gabriel Kreiman

- Full professor
- Department of Ophthalmology, Harvard Medical School, MA, USA
- Harvard-MIT Center for Brains, Minds and Machines (CBMM), MA, USA
- Email : Gabriel.Kreiman@childrens.harvard.edu
- PhD and Postdoc advisor

2017 - 2021

• Joo Hwee Lim

- Principal research scientist and department head of Visual Intelligence
- Institute for Infocomm Research, Agency for Science, Technology and Research (A*STAR), Singapore
- Email : jooHwee@i2r.a-star.edu.sg
- PhD advisor and current employer

2015 - 2019, 2021 - 2025

• Jiashi Feng

- Research scientist and former assistant professor
- ByteDance, Singapore
- Department of Electrical and Computer Engineering, National University of Singapore, Singapore

- Email : jshfeng@gmail.com
- PhD advisor

2015 - 2019

- **Jeremy M. Wolfe**

- Full Professor
- Department of Ophthalmology, Harvard Medical School, MA, USA
- Email : jwolfe@bwh.harvard.edu
- Research project collaborator and mentor

2018 - present

- **Tomaso Poggio**

- Full Professor
- Department of Brain and Cognitive Sciences, MIT, MA, USA
- Harvard-MIT Center for Brains, Minds and Machines (CBMM), MA, USA
- Email : tp@csail.mit.edu
- Colleague and mentor in CBMM

2015 - 2021

- **Boris Katz**

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2025 - present