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
- *Ph.D. in Electrical and Computer Engineering; GPA: 3.70/4.0* — *Aug, 2015 - Jan, 2019*
  Thesis Advisors: Shih-Cheng Yen, Joo Hwee Lim, Jiashi Feng, Qi Zhao, Gabriel Kreiman

Harvard Medical School, Children's Hospital — MA, USA
- *Visiting Ph.D. student* — *Aug, 2017 - Sep, 2018*
  Advisor: Gabriel Kreiman

National University of Singapore — Singapore
- *BEng in Electrical and Computer Engineering (1st Class Honors); GPA: 3.86/4.0* — *Aug, 2011 - Jul, 2015*
  Dean's List (top 5% of the cohort) for **ALL** Academic Years

University of California, Santa Barbara — CA, USA
- *Visiting undergraduate; GPA: 4.0/4.0* — *Jan, 2014 - Apr, 2014*
  Dean's Honors Award

WORK EXPERIENCE

Nanyang Technological University (NTU) — Singapore
- *Tenure-track Nanyang assistant professor* — *Nov, 2023 - Present*
  College of Computing and Data Science

Agency for Science, Technology and Research (A*STAR) — Singapore
- *Principal scientist and principal investigator in Institute for Infocomm Research* — *Sep, 2021 - Apr, 2025*
  Early career investigator in Center for Frontier of AI Research (CFAR) — May, 2022 - Jan, 2024

Harvard-MIT Center for Brains, Minds and Machines — MA, USA
- *Research fellow in Harvard Medical School, Children's Hospital* — *Jun, 2019 - Aug, 2021*
  Advisor: Gabriel Kreiman

GRANTS

- **Startup Grant (0.3 million SGD equivalent to 220k USD)**
  Nanyang Technological University (NTU), Singapore — *Nov, 2023 - present*

- **Singapore NRF Fellowship (3 million SGD equivalent to 2.18 million USD)**
  National Research Foundation (NRF), Singapore — *Apr, 2023 - present*
  as prestigious as **NSF Career Award** and **NIH RO1** in the USA

- **Startup Grant (0.5 million SGD equivalent to 370k USD)**
  *Agency for Science, Technology and Research (A*STAR), Singapore* — *Jan, 2021 - Mar, 2023*

- **CONFIRMA Grant (1.5 million SGD equivalent to 1.1 million USD)**
  *Agency for Science, Technology and Research (A*STAR), Singapore* — *Apr, 2023 - Apr, 2025*

- **AISG Research Grant (1 million SGD equivalent to 740k USD)**
  National Research Foundation (NRF) AI Singapore, Singapore — *Apr, 2022 - Mar, 2025*

- **Early Career Investigatorship (0.25 million SGD equivalent to 180k USD)**
  *Center for Frontier AI Research (CFAR), A*STAR, Singapore* — *May, 2022 - Apr, 2024*

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**
  - **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 Piriyajitakonkij** : 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**
  - **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 Aakansha** : 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**)

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

Editors for Journals: Vision Research - Special Issue on Mathematical and Computational Models in 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

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*

Invited talks

- 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] Peering into the Unknown: Active View Selection with Neural Uncertainty Maps for 3D Reconstruction
*Zhengquan Zhang, Feng Xu, **Mengmi Zhang***
under review, 2025

[2] From Grunts to Grammar: Emergent Language from Cooperative Foraging
*Maytus Piriyajitakonkij, 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] Unsupervised Prior Learning: Discovering Categorical Pose Priors from Videos
*Ziyu Wang, Shuangpeng Han, Mike Zheng Shou, **Mengmi Zhang***
under review, 2024

[6] TTA-Nav: Test-time Adaptive Reconstruction for Point-Goal Navigation under Visual Corruptions
*Maytus Piriyajitakonkij, Mingfei Sun, **Mengmi Zhang**, Wei Pan*
under review, 2024

[7] Reason from Context with Self-supervised Learning
*Xiao Liu, Ankur Sikarwar, Joo Hwee Lim, Gabriel Kreiman, Zenglin Shi, **Mengmi Zhang***
under review, 2023

[8] Human or Machine? Turing Tests for Vision and Language
***Mengmi Zhang**, Giorgia Dellaferrera, Ankur Sikarwar, Marcelo Armendariz, Noga Mudrik, Prachi Agrawal, Spandan Madan, Andrei Barbu, Haochen Yang, Tanishq Kumar, Meghna Sadwani, Stella Dellaferrera, Michele Pizzochero, Hanspeter Pfister, Gabriel Kreiman*
under review, 2023

[9] 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

[10] On the utility of the human visual diet in enabling generalaztion to real-world transformations
*Spandan Madan, Li You, **Mengmi Zhang**, Hanspeter Pfister, Gabriel Kreiman*
under review, 2023

Publications in Major Conferences, Journals, and Books

[1] 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**)

[2] 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

[3] 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

[4] 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)**

[5] 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**

[6] 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

[7] Adaptive Visual Scene Understanding: Incremental Learning in Scene Graph Generation
Naitik Khandlewal, Xiao Liu, **Mengmi Zhang**
Conference on Neural Information Processing Systems **(NeurIPS)**, 2024

[8] 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)**

[9] 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

[10] 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

[11] Training-free Object Counting with Prompts
Zenglin Shi, Ying Sun, **Mengmi Zhang**
IEEE Winter Conference on Applications of Computer Vision **(WACV)**, 2023

[12] 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

[13] 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

[14] 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)**

[15] 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)**

[16] Artificial Intelligence and Vision
Will Xiao, **Mengmi Zhang**, *Gabriel Kreiman*
Free will, philosophers and neuroscientists in conversation, Oxford University Press, **(Book Chapter)**, 2021

[17] 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

[18] Beauty is in the eye of the machine
Mengmi Zhang, *Gabriel Kreiman*
Nature Human Behavior, 2021 **(impact factor: 12.28)**

[19] 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

[20] Putting Visual Object Recognition in Context
Mengmi Zhang, *Claire Tseng, Gabriel Kreiman*
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2020

[21] 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)**

[22] 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

[23] 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

[24] 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 Interational 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 - 2021*
- **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**
  - Principal research scientist and head of the InfoLab Group
  - Computer Science and Artificial Intelligence Laboratory (CSAIL), MIT, MA, USA
  - Harvard-MIT Center for Brains, Minds and Machines (CBMM), MA, USA
  - Email : boris@mit.edu
  - Colleague in CBMM   *2019 - 2021*