王哲灿 (Zhecan James Wang)

个人信息

性别: 男
出生日期: 1993 年 11 月 6 日
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GitHub: github.com/zhecanjameswang
专利: patents.justia.com/inventor/zhecan-wang
领英: https://www.linkedin.com/in/jameszhecanwang/

研究领域

过去和当下: 多模态学习 (Multimodal Learning), 常识推理学习 (Commonsense Reasoning), 人在闭环 (Human-in-the-loop)
未来潜在: 人机交互 (Human-AI Interaction/System), 以人为本的 AI (Human-Centered AI), AI for Science/Health, etc.

教育

哥伦比亚大学 指导: Shih-Fu Chang (哥大工院院长)、Kai-Wei Chang (UCLA)	计算机科学博士研究生 Funded by DARPA MCS Program, 1 Million	2019 - 2024
欧林工程学院 麻省理工学院旗下，Ranked top 2 by U.S. News	计算机工程科学学士 校史第四位中国学生	2014 - 2018
新加坡国立大学 指导: 冯佳时、Ashraf Kassim (新国立工院院长)	交流学生 研究助理	2016 - 2017
麻省理工学院、卫斯理学院	合作院校选修课	2014 - 2018
美国传承中学 American Heritage School 美国私立高中数学第一	高中	2010 - 2013
福州一中 自主招生全省前十名	高中	2009 - 2010

高光成绩

23 篇顶会论文 (8 篇一作及共一作)
8 项 AI 相关专利 (7 美国、1 中国)
第一名

- DARPA MCS 评比排行榜;
- 微软全球百万名人人脸识别挑战赛，MS-Celeb-1M, 全球最大规模人脸数据集 (带领 12 人团队);
- iBUG 全球第二届人脸坐标定位比赛.

AAAI-22 / BMVC-17 博士生奖学金项目获得者
欧林工学院四年$100,000 奖学金获得者
1000+ citations @ Google Scholar
SOTA @ VCR, VQA, A-OKVQA, OKVQA, SNLI-VE, etc.
Serving as reviewer for 50+ top-tier conferences since 2018
工作受到媒体组织认可, e.g. AI2, DARPA, PaperWeekly，新智元.
受邀获得丹麦首相接见

领导力

哥伦比亚大学工学院学生会部门代表
Babson-Olin-Wellesley 校际合作学生代表
In Transcription 生命科学科学家和创业社群研究主席
HackIT, 在线 AI 编程学习公益平台联合创始人

工作经验

- ❖ 谷歌深度大脑研究院(指导: Golnaz Ghiasi、Adam Yu)
  - ○ 兼职研究员、研究实习生 (Quoc V. Le 领导下的多模态组,负责 Bard,Gemini 的组)
- ❖ 微软研究院(指导: Noel Codella, 首席研究员)
  - ○ 兼职研究员、研究实习生 (Lu Yuan 领导下的多模态组)
- ❖ 小鹏汽车北美 AI 研究院(指导: 郭彦东博士, 首席科学家)
  - ○ A.I. 研究工程师
  - ○ 研究智能座舱, 人机交互, 分析驾驶员的生理信息和行为;
  - ○ 北美第 8 号员工、唯一应届本科生;
  - ○ 由公司首席科学家直接指导 (前微软研究院高级研究员, 现 OPPO 手机副总裁).
- ❖ 松下 R&D 研发中心
  - ○ 机器学习研究实习生
  - ○ 参加新加坡国立大学和松下研究院的合作项目;
  - ○ 带领实习生团队参与 MS-Celeb-1M 比赛获得第一名;

研究经验

- ❖ 哥伦比亚大学, DVMM 实验室, 博士研究助理, 指导: Shih-Fu Chang, Kaiwei Chang (UCLA)
  - ○ 研究 AI 结合多模态(视觉、文本等)的学习探索.
- ❖ 新加坡国立大学, LV 实验室, 本科研究助理, 指导: 冯佳时, Ashraf Kassim
  - ○ 人脸识别相关研究工作.
- ❖ 麻省理工学院(MIT),多媒体实验室, 本科研究员助理, 指导: Deb Roy
  - ○ 研究文字聊天对话中的信息提取和逻辑理解.
- ❖ 欧林工程学院, OCCaM 机器人实验室, 本科研究助理, 指导: Paul Ruvolo
  - ○ 盲人导航助手: 通过传感器来室内定位并引导盲人活动;
  - ○ 持续永生学习机器人: 机器人自主持续学习外界的新物体;
  - ○ 无人机: 无人机入海采集标本.

学术服务

教学 Teaching
- Head TA, Prof. Richard Zemel, Fall 2022, COMS W4995: Neural Network and Deep Learning
- TA, Prof. Julia Hirschberg, Spring 2022, COMS 6998: Advanced Topics in Spoken Language Processing

研究指导 Mentoring
- 1-on-1 mentoring 8+ master/undergraduate students in individual research;
- 7 publications accepted to top-tier conferences;
- 4 of them admitted to Ph.D. programs in Columbia University, Brown University, The Hong Kong Polytechnic University, and the University of Pittsburgh, etc.

IEEE (Institute of Electrical and Electronics Engineers) Membership

专利

7 US Utility Patents about Indoor Human Body Analysis with Wireless Sensors and Artificial Intelligence.
Detecting location within a network. Patent No.: US11423968, US10964371, US10665284, US10455357, US10325641, US10142785, US10064014.
1 CN Patent about Human Attention Detection via Artificial Intelligence.
Human eye sight line direction determination method and system of human eye sight line detection system.
Patent No.: CN110458104B.

论文

- MuSiC: Machine-Human-In-the-Loop System for Visual Commonsense Challenges
  Zhecan Wang, Golnaz Ghiasi, Adams Yu, Thang Luong, Kai-Wei Chang, Shih-fu Chang, Quoc V. Le

CVPR 2024 Submission, The IEEE/CVF Conference on Computer Vision and Pattern Recognition 2024.

- Adversarial Complex Hallucination Challenges in Visual Question Answering
  Zhecan Wang, Golnaz Ghiasi, Adams Yu, Thang Luong, Kai-Wei Chang, Shih-fu Chang, Quoc V. Le
  CVPR 2024 Submission, The IEEE/CVF Conference on Computer Vision and Pattern Recognition 2024.
- MAD: Multimodal Adaptive Distillation for Leveraging Unimodal Encoders for Vision-Language Tasks
  Zhecan Wang*, Noel Codella*, Yen-Chun Chen, Luowei Zhou, Xiyang Dai, Bin Xiao, Jianwei Yang, Haoxuan You, Kai-Wei Chang, Shih-fu Chang, Lu Yuan
  IJCAI-PRICAI '24 Submission, International Joint Conference on Artificial Intelligence and Pacific Rim International Conference on Artificial Intelligence 2024.
  Former CLIP-TD, SOTA performance on VCR, VQA, and SNLI-VE benchmarks.
- CoBIT: A Contrastive Bi-directional Image-Text Generation Modes
  Haoxuan You, Mandy Guo, **Zhecan Wang**, Kai-Wei Chang, Jason Baldridge, Jiahui Yu
  ICLR '24 Submission, The Twelfth International Conference on Learning Representations 2024.
- Learning Knowledge-Aware Multimodal Representation for Visual Commonsense Reasoning
  Zhecan Wang, Haoxuan You, Alireza Zareian, Kai-Wei Chang, Shih-Fu Chang
  IJCAI-PRICAI '24 Submission, International Joint Conference on Artificial Intelligence and Pacific Rim International Conference on Artificial Intelligence 2024.
- Dataset Bias Mitigation in Multiple-Choice Visual Question Answering and Beyond
  Zhecan Wang, Long Chen, Haoxuan You, Keyang Xu, Yicheng He, Wenhao Li, Noel Codella, Kai-Wei Chang, Shih-Fu Chang
  EMNLP '23 Findings, Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing
- IdealGPT: Iteratively Decomposing Vision and Language Reasoning via Large Language Models
  Haoxuan You*, **Zhecan Wang***, Rui Sun*, Long Chen, Gengyu Wang, Hammad A. Ayyubi, Kai-Wei Chang, Shih-Fu Chang
  EMNLP '23 Findings, Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing
- UniFine: A Unified and Fine-grained Approach for Zero-shot Vision-Language Understanding
  Zhecan Wang*, Rui Sun*, Haoxuan You, Noel Codella, Kai-Wei Chang, Shih-Fu Chang
  ACL '23 Findings, Proceedings of the 61th Annual Meeting of the Association for Computational Linguistics
- Understanding ME? Multimodal Evaluation for Fine-grained Visual Commonsense
  Zhecan Wang, Haoxuan You, Yicheng He, Wenhao Li, Kai-Wei Chang, and Shih-Fu Chang
  EMNLP '22, Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing
- Find Someone Who: Visual Commonsense Understanding in Human-Centric Grounding
  Haoxuan You*, Rui Sun*, **Zhecan Wang**, Kai-Wei Chang, Shih-Fu Chang. *EMNLP '22 Findings, Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing Findings*
- SGEITL: Scene Graph Enhanced Image-Text Learning for Visual Commonsense Reasoning
  Zhecan Wang*, Haoxuan You*, Liunian Harold Li, Alireza Zareian, Suji Park, Yiqing Liang, Kai-Wei Chang, Shih-Fu Chang
  AAAI '22, The 36th AAAI Conference on Artificial Intelligence 2022.
- Graph-MLP: Node Classification without Message Passing in Graph
  Yang Hu, Haoxuan You, **Zhecan Wang**, Zhicheng Wang, Erjin Zhou, Yue Gao
  2021 arXiv preprint: 2106.04051
- Bridging the Gap between Recognition-level Pre-training and Cognition-level Vision-language Tasks
  Yue Wan*, Yueen Ma*, Haoxuan You, **Zhecan Wang**, and Shih-Fu Chang.
  ACL-CSRR '22, Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics

- Weakly-supervised VisualBERT: Pre-training without Parallel Images and Captions
  Liunian Harold Li, Haoxuan You*, **Zhecan Wang***, Alireza Zareian, Shih-Fu Chang, Kai-Wei Chang
  NAACL ' 21, 2021 Annual Conference of the North American Chapter of the Association for Computational Linguistics.
- Learning Visual Commonsense for Robust Scene Graph Generation
  Alireza Zareian*, **Zhecan Wang***, Haoxuan You*, Shih-Fu Chang
  ECCV '20, 2020 European Conference on Computer Vision (Oral).
- Learning to Detect Head Movement in Unconstrained Remote Gaze Estimation in the Wild
  Zhecan Wang, Jian Zhao, Cheng Lu, Fan Yang, Han Huang, lianji li, Yandong Guo
  WACV '20, 2020 IEEE/CVF Winter Conference on Applications of Computer Vision (Oral).
- Conditional Dual-Agent GANs for Photorealistic and Annotation Preserving Image Synthesis
  Zhecan Wang, Jian Zhao, Yu Cheng, Shengtao Xiao, Jianshu Li, Fang Zhao, Jiashi Feng, Ashraf Kassim
  BMVCW ' 17, 28th British Machine Vision Conference Face HUB WorkShop, 2017 (Oral), Travel grant.
- Know You at One Glance: A Compact Vector Representation for Low-Shot Learning
  Yu Cheng*, Jian Zhao*, **Zhecan Wang,** Yan Xu, Karlekar Jayashree, Shengmei Shen, Jiashi Feng
  ICCVW '17, 2017 IEEE International Conference on Computer Vision Workshops (Oral).
- High Performance Large Scale Face Recognition with Multi-Cognition Softmax and Feature Retrieval
  Yan Xu*, Yu Cheng*, Jian Zhao, **Zhecan Wang**, Lin Xiong, J. Karlekar, Hajime Tamura, Tomoyuki Kagaya, Sugiri Pranata, Shengmei Shen, Jiashi Feng, Junliang Xing
  ICCVW '17, 2017 IEEE International Conference on Computer Vision Workshops (Oral).
- 3D-assisted Coarse-to-fine Extreme-pose Facial Landmark Detection
  Shengtao Xiao, Jianshu Li, Yunpeng Chen, **Zhecan Wang**, Jiashi Feng, Shuicheng Yan, A. Kassim
  CVPRW '17, 2017 IEEE Conference on Computer Vision and Pattern Recognition Workshops (Poster).
- Dual-Agent GANs for Photorealistic and Identity Preserving Profile Face Synthesis
  Jian Zhao, Lin Xiong, J. Karlekar, Jianshu Li, F. Zhao, **Zhecan Wang**, Sugiri Pranata, Shengmei Shen, Shuicheng Yan, Jiashi Feng
  NIPS '17, Proceedings of the 31st International Conference on Neural Information Processing Systems
- Self-Supervised Neural Aggregation Networks for Human Parsing
  Jian Zhao, Jianshu Li, Xuecheng Nie, Fang Zhao, Yunpeng Chen, **Zhecan Wang**, Jiashi Feng, Shuicheng Yan
  CVPRW '17, 2017 IEEE Conference on Computer Vision and Pattern Recognition Workshops (Oral).
- Autonomous Vehicles for Remote Sample Collection in Difficult Conditions: Enabling remote sample collection by marine biologists
  Andrew Bennett, Victoria Preston, Jay Woo, Shivali Chandra, Devynn Diggins, Riley Chapman, **Zhecan Wang**, Matthew Rush, Liani Lye, Mindy Tieu, Silas Hughes, Iain Kerr, Adela Wee
  TePRA '15, 2015 IEEE International Conference on Technologies for Practical Robot Applications
- Autonomous Vehicles for Remote Sample Collection: Enabling Marine Research
  Andrew Bennett, David Barrett, Victoria Preston, Jay Woo, Shivali Chandra, Devynn Diggins, Riley Chapman, Adela Wee, **Zhecan Wang**, Matthew Rush, Iain Kerr
  OCEANS '15, 2015 IEEE International Conference on OCEANS – Genova.

个人项目

- Improving Human-Robot Collaboration through Wearable Technology
  - Sponsored by **Rockwell Automation** (**top 1** robotic arm company) and protected under **NDA**;
  - Using wearable technology to harness emotional intelligence between humans and industrial robots to increase interaction while maintaining safety standards.

- Neato Robotics Street View
    - 3D view campus map with a vacuum robot;
    - Implemented SLAM, robot navigation algorithm, data collection pipeline and web interface.
- Assisting people with disabilities with image and word classification via brain wave
    - Collaborated with Microsoft Research researchers;
    - Using machine learning algorithm to analyze EEG brain wave signals.

技能

Programming (Python, Java, C++, C, etc.), Machine Learning, Deep Learning, Robotics Controlling, Sensor Fusion, User Interface Design, Model Deployment, Dataset Management, Software Design, Software Development, App Development, Website Development, Microcontroller and Sensor, Mechanical Design, Control System Development, Prototype Design, Process Control, Simulation Software, Embedded System, etc.

推荐人

References are listed by priority.

Name: Shih-fu Chang
Relationship: Main-supervisor
Position: Professor, Dean of Columbia Engineering (教授，工院院长)
Employer: Columbia University (哥伦比亚大学)
Email: sc250@columbia.edu
Dossier Email: send.Engineering.1047E47D9F@interfoliodossier.com

Name: Kai-Wei Chang
Relationship: Co-supervisor
Position: Associate Professor (副教授)
Employer: University of California, Los Angeles (UCLA, 加州大学洛杉矶分校)
Email: kwchang@cs.ucla.edu
Dossier Email: send.Engineering.DE4058A6A1@interfoliodossier.com

Name: Noel Codella
Relationship: Internship Mentor
Position: Principal Researcher (首席研究员)
Employer: Microsoft Research (MSR, 微软研究院)
Email: ncodella@microsoft.com
Dossier Email: send.Engineering.55151F0851@interfoliodossier.com

Name: Ashraf Kassim
Relationship: Undergraduate Research Supervisor
Position: Professor & Associate Provost (新加坡科技艺术大学现教授, 院长, Adjunct Professor and former Vice Provost at NUS, 新加坡国立大学兼职教授和前院长)
Employer: Singapore University of Technology and Design (SUTD, 新加坡科技设计大学)
Email: ashraf@sutd.edu.sg, ashraf@nus.edu.sg
Dossier Email: send.Kassim.1D777D9D66@interfoliodossier.com

Name: Long Chen
Relationship: Research Collaborator
Position: Assistant Professor (助理教授)
Employer: The Hong Kong University of Science and Technology (HKUST, 港科大)
Email: longchen@ust.hk
Dossier Email: send.Engineering.0FE9F1C98F@interfoliodossier.com