

Boyang “Albert” Li, Ph.D.

CONTACT INFORMATION	School of Computer Science and Engineering, Nanyang Technological University, Block N4, Level 2, Room A-05, 50 Nanyang Avenue, Singapore, 639798	boyang.li@ntu.edu.sg http://boyangli.org
EDUCATION	Georgia Institute of Technology , Atlanta, GA Ph.D., Computer Science, May 2015 <ul style="list-style-type: none">Dissertation: <i>Learning Knowledge to Support Domain-Independent Narrative Intelligence</i>Advisor: Dr. Mark O. Riedl Nanyang Technological University , Singapore B.E., Computer Engineering, June 2008 <ul style="list-style-type: none">First-Class Honors, Minor in Business	
PROFESSIONAL EXPERIENCES	Nanyang Associate Professor School of Computer Science and Engineering, Nanyang Technological University, Singapore	Apr '21 to Present
	Associate Professor School of Computer Science and Engineering, Nanyang Technological University, Singapore	Nov '20 to Apr '21
	Visiting Scientist Alibaba-NTU Joint Research Institute, Singapore	Nov '19 to Nov '20
	Senior Research Scientist Baidu Research, Sunnyvale, CA	Jul '18 to Oct '19
	Senior Research Scientist Liulishuo (LingoChamp) Silicon Valley AI Lab, San Mateo, CA	Jan '18 to Jul '18
	Research Scientist Disney Research, Pittsburgh, PA	Jun '15 to Dec '17
	Post-Doctoral Researcher Disney Research, Pittsburgh, PA	Jan '15–Jun '15
	Graduate Research Assistant School of Interactive Computing, Georgia Institute of Technology, Atlanta, GA	Aug '09–Dec '14
	AI Consultant Walt Disney Imagineering, via Caseworks LLC	Jun–Aug '11, May–Aug '10
	Research Assistant School of Computer Engineering, Nanyang Technological University, Singapore Supervisor: Dr. Chunyan Miao	Jun '08–May '09

REFEREED
JOURNAL
PUBLICATIONS

1. Jiayun Luo, **Boyang Li**, and Cyril Leung. A Survey of Computer Vision Technologies in Urban and Controlled-environment Agriculture. *ACM Computing Surveys*, 56 (5):1–39. 2023.
2. Anthony Meng Huat Tiong, Junnan Li, Guosheng Lin, **Boyang Li**, Caiming Xiong, and Steven C.H. Hoi. Improving Tail-Class Representation with Centroid Contrastive Learning. *Pattern Recognition Letters*. 2023.
3. Siwei Feng, **Boyang Li**, Han Yu, Yang Liu, and Qiang Yang. Semi-Supervised Federated Heterogeneous Transfer Learning. *Knowledge-Based Systems*. 252. 2022.
4. Wang Hao, **Boyang Li**, Haoming Zhong, Ahong Xu, Yingjie Huang, Jingfu Zou, Yuanyuan Chen, Pengcheng Wu, Yiqiang Chen, Cyril Leung, and Chunyan Miao. Smart Decision-Support System for Pig Farming. *Drones*. 6 (12). 2022.
5. Xu Guo, Han Yu, **Boyang Li**, Hao Wang, Pengwei Xing, Siwei Feng, Zaiqing Nie, and Chunyan Miao. Federated learning for personalized humor recognition. *ACM Transactions on Intelligent Systems and Technology*. 13(4):1–18. 2022.
6. Yuan Liu, Yixiao Lan, **Boyang Li**, Chunyan Miao, and Zhihong Tian. Proof of Learning (PoLe): Empowering neural network training with consensus building on blockchains. *Computer Networks*, 201. 2021.
7. Adam Noack, Isaac Ahern, Dejing Dou, and **Boyang Li**. An Empirical Study on the Relation between Network Interpretability and Adversarial Robustness. *Springer Nature Computer Science*, 2(32). 2021.
8. Guoyun Tu, Yanwei Fu, **Boyang Li**, Jiarui Gao, Yu-Gang Jiang, and Xiangyang Xue. A Multi-task Neural Approach for Emotion Attribution, Classification and Summarization. *IEEE Transaction on Multimedia*. 2019.
9. Ng Annalyn, Maarten Bos, Leonid Sigal, **Boyang Li**. Predicting Personality from Book Preferences with User-Generated Content Labels. *IEEE Transaction on Affective Computing*. 2018.
10. Baohan Xu, Yanwei Fu, Yu-Gang Jiang, **Boyang Li**, and Leonid Sigal. Heterogeneous Knowledge Transfer in Video Emotion Recognition, Attribution and Summarization. *IEEE Transaction on Affective Computing*. 2016.
11. **Boyang Li**. Humor: A Dynamic and Dual-Process Theory with Computational Considerations. *Advances in Cognitive Systems*, 4:57–74, 2016.
12. Jun Ji, Han Yu, **Boyang Li**, Huiguo Zhang. Learning Chinese Characters with Gestures. *International Journal of Information Technology*. 19(1), 2013.
13. **Boyang Li**, Stephen Lee-Urban, D. Scott Appling and Mark O. Riedl. Crowdsourcing Narrative Intelligence. *Advances in Cognitive Systems*. 2:25–42, 2012.
14. Yundong Cai, Chunyan Miao, Ah-Hwee Tan, Zhiqi Shen, and **Boyang Li**, Creating an Immersive Game World with Evolutionary Fuzzy Cognitive Maps, *IEEE Computer Graphics and Applications*, 30(2):58–70, 2010.

1. Yubin Xiao, Di Wang, Boyang Li, Mingzhao Wang, Xuan Wu, Changliang Zhou, You Zhou. Distilling Autoregressive Models to Obtain High-Performance Non-Autoregressive Solvers for Vehicle Routing Problems with Faster Inference Speed. *The 35th AAAI Conference on Artificial Intelligence (AAAI)*. 2024.
2. Wenliang Dai, Junnan Li, Dongxu Li, Anthony Meng Huat Tiong, Junqi Zhao, Weisheng Wang, **Boyang Li**, Pascale Fung, and Steven Hoi. InstructBLIP: Towards General-purpose Vision-Language Models with Instruction Tuning. *Advances in Neural Information Processing Systems (NeurIPS)*. 2023.
3. Zilin Du, Yunxin Li, Xu Guo, Yidan Sun, and **Boyang Li**. Training Multimedia Event Extraction With Generated Images and Captions. *The ACM International Conference on Multimedia (ACM MM)*. 2023.
4. Haoxin Li, Yuan Liu, Hanwang Zhang, and **Boyang Li**. Mitigating and Evaluating Static Bias of Action Representations in the Background and the Foreground. *International Conference on Computer Vision (ICCV) (Oral Presentation)*. 2023.
5. Bosheng Ding, Chengwei Qin, Linlin Liu, Yew Ken Chia, **Boyang Li**, Shafiq Joty, and Lidong Bing. Is GPT-3 a Good Data Annotator? *The Annual Conference of the Association for Computational Linguistics (ACL)*. 2023.
6. Qin Chao, Eunsoo Kim, and **Boyang Li**. Movie Box Office Prediction With Self-Supervised and Visually Grounded Pretraining. *IEEE International Conference on Multimedia and Expo (ICME)*. 2023.
7. Jiaxian Guo, Junnan Li, Dongxu Li, Anthony Meng Huat Tiong, **Boyang Li**, Dacheng Tao, and Steven CH Hoi. From Images to Textual Prompts: Zero-shot VQA with Frozen Large Language Models. *The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2023.
8. Anthony Meng Huat Tiong, Junnan Li, **Boyang Li**, Silvio Savarese, and Steven C.H. Hoi. Plug-and-Play VQA: Zero-shot VQA by Conjoining Large Pretrained Models with Zero Training. *Findings of the Conference on Empirical Methods in Natural Language Processing (Findings of EMNLP)*. 2022.
9. Xu Guo, **Boyang Li**, and Han Yu. Improving the Sample Efficiency of Prompt Tuning with Domain Adaptation. *Findings of the Conference on Empirical Methods in Natural Language Processing (Findings of EMNLP)*. 2022.
10. Tong Zhang, Yong Liu, **Boyang Li**, Zhiwei Zeng, Pengwei Wang, Yuan You, Chunyan Miao, and Lizhen Cui. History-Aware Hierarchical Transformer for Multi-session Open-domain Dialogue System. *Findings of the Conference on Empirical Methods in Natural Language Processing (Findings of EMNLP)*. 2022.
11. Jun Chen, Han Guo, Kai Yi, **Boyang Li**, and Mohamed Elhoseiny. VisualGPT: Data-efficient Adaptation of Pretrained Language Models for Image Captioning. *The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2022.
12. Sherif Abdelkarim , Aniket Agarwal, Panos Achlioptas, Jun Chen, Jiaji Huang, **Boyang Li**, Kenneth Church, and Mohamed Elhoseiny. Exploring Long Tail Visual Relationship Recognition with Large Vocabulary. In *International Conference on Computer Vision (ICCV)*. 2021.
13. Yinan Zhang, **Boyang Li**, Yong Liu, Hao Wang, Chunyan Miao. Initialization Matters: Regularizing Manifold-informed Initialization for Neural Recommendation Systems. In *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*. 2021.

14. Xu Guo, **Boyang Li**, Han Yu, and Chunyan Miao. Latent-Optimized Adversarial Neural Transfer for Sarcasm Detection. In *The Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)*. 2021.
15. Chang Liu, Han Yu, **Boyang Li**, Zhiqi Shen, Zhanning Gao, Peiran Ren, Xuansong Xie, Lizhen Cui, and Chunyan Miao. Noise-resistant Deep Metric Learning with Ranking-based Instance Selection. In *The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2021.
16. Yuanyuan Chen, **Boyang Li**, Han Yu, Pengcheng Wu, and Chunyan Miao. HyDRA: Hypergradient Data Relevance Analysis for Interpreting Deep Neural Networks. In *The 35th AAAI Conference on Artificial Intelligence (AAAI)*. Virtual Conference. 2021.
17. Jianan Wang, **Boyang Li**, Xiangyu Fan, Jing Lin, and Yanwei Fu. Data-efficient Alignment of Multimodal Sequences by Aligning Gradient Updates and Internal Feature Distributions. In *The IEEE Winter Conference on Applications of Computer Vision (WACV)*. Virtual Conference. 2021.
18. Hannah Kim, Denys Katerenchuk, Daniel Billet, Jun Huan, Haesun Park, **Boyang Li**. Understanding Actors and Evaluating Personae with Gaussian Embeddings. In *The 33rd AAAI Conference on Artificial Intelligence*. Honolulu, Hawaii. 2019.
19. Pelin Dogan, **Boyang Li**, Leonid Sigal, Markus Gross. LSTM stack-based Neural Multi-sequence Alignment TeCHnique (NeuMATCH). In *The Conference on Computer Vision and Pattern Recognition (CVPR)*. Salt Lake City, Utah. 2018. Spotlight Presentation .
20. **Boyang Li**, Beth Cardier, Tong Wang and Florian Metze. Annotating High-Level Structures of Short Stories and Personal Anecdotes. In *The 11th Language Resources and Evaluation Conference (LREC)*. Miyazaki, Japan. 2018.
21. Sasha Azad, Jingyang Xu, Haining Yu and **Boyang Li**. Scheduling Live Interactive Narratives with Mixed-Integer Linear Programming. In *The 13th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE)*. Snowbird, Utah. 2017.
22. James Kennedy, Iolanda Leite, Andre Pereira, Ming Sun, **Boyang Li**, Rishub Jain, Ricson Cheng, Eli Pincus, Elizabeth Carter and Jill Fain Lehman. Learning and Reusing Dialog for Repeated Interactions with a Situated Social Agent. In *the 17th International Conference on Intelligent Virtual Agents (IVA)*. Stockholm, Sweden. 2017.
23. Tong Wang, Ping Chen, and **Boyang Li**. Predicting the Quality of Short Narratives from Social Media. In *the 26th International Joint Conference on Artificial Intel-ligence (IJCAI)*. Melbourne, Australia. 2017.
24. Matthew Guzdial, **Boyang Li**, and Mark O. Riedl. Game Engine Learning from Video. In *the 26th International Joint Conference on Artificial Intelligence (IJCAI)*. Melbourne, Australia. 2017.
25. Ming Sun, Iolanda Leite, Jill Fain Lehman, and **Boyang Li**. Collaborative Storytelling between Robot and Child: A Feasibility Study. In *the 16th ACM SIGCHI Interaction Design and Children Conference*. Stanford, CA. 2017.
26. Iolanda Leite, André Pereira, Allison Funkhouser, **Boyang Li**, and Jill Fain Lehman. Semi-situated Learning of Verbal and Nonverbal Content for Repeated

- Human-Robot Interaction. In *the 18th ACM International Conference on Multimodal Interaction*. Tokyo, Japan. 2016.
27. Rogelio Cardona-Rivera and **Boyang Li**. PlotShot: Generating Discourse-constrained Stories around Photos. In *the 12th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*. Burlingame, CA. 2016.
 28. Baohan Xu, Yanwei Fu, Yu-Gang Jiang, **Boyang Li** and Leonid Sigal. Video Emotion Recognition with Transferred Deep Feature Encodings. In *the 2016 ACM International Conference in Multimedia Retrieval*. New York, NY. 2016.
 29. Yi Luan, Yangfeng Ji, Hannaneh Hajishirzi, and **Boyang Li**. Multiplicative Representations for Unsupervised Semantic Role Induction. In *the 54th Annual Meeting of the Association for Computational Linguistics, Short Papers*. Berlin, Germany. 2016.
 30. **Boyang Li**. A Dynamic and Dual-Process Theory of Humor. In *the 3rd Annual Conference on Advances in Cognitive Systems*. Atlanta, GA. 2015.
 31. Matthew Guzdial, Brent Harrison, **Boyang Li**, and Mark O. Riedl. Crowdsourcing Open Interactive Narrative. In *the 10th International Conference on the Foundations of Digital Games*. Pacific Grove, CA. 2015.
 32. **Boyang Li**, Mohini Thakkar, Yijie Wang, and Mark O. Riedl. Data-Driven Storytelling Agents with Adjustable Personal Traits and Sentiments. In *the 14th International Conference on Intelligent Virtual Agents*. Boston, MA, 2014.
 33. **Boyang Li**, Mohini Thakkar, Yijie Wang and Mark O. Riedl. Storytelling with Adjustable Narrator Style and Sentiments. In *the 7th International Conference on Interactive Digital Storytelling*. Singapore. 2014.
 34. **Boyang Li**, Stephen Lee-Urban, George Johnston, and Mark O. Riedl. Story Generation with Crowdsourced Plot Graphs. In *the 27th AAAI Conference on Artificial Intelligence*. Bellevue, Washington. 2013.
 35. **Boyang Li**, Stephen Lee-Urban, and Mark O. Riedl. Crowdsourcing Interactive Fiction Games. In *the 8th International Conference on the Foundations of Digital Games*, Chania, Greece, 2013.
 36. **Boyang Li**, Alexander Zook, Nicholas Davis, and Mark O. Riedl. Goal-Driven Conceptual Blending: A Computational Approach for Creativity. In *the 3rd International Conference on Computational Creativity*. Dublin, Ireland. 2012.
 37. Mark O. Riedl, **Boyang Li**, Hua Ai, and Ashwin Ram. Robust and Authorable Multiplayer Interactive Narrative Experiences. In *the 7th Annual Conference on Artificial Intelligence and Interactive Digital Entertainment*. Palo Alto, CA, 2011.
 38. **Boyang Li** and Mark O. Riedl. Creative Gadget Design in Fictions: Generating Novel Object Types in Blended Spaces. In *the 8th ACM Conference on Creativity and Cognition*. Atlanta, Georgia. 2011. Panel Presentation .
 39. Nicholas Davis, **Boyang Li**, Brian O'Neill, Mark Riedl, and Michael Nitsche. Distributed Creative Cognition In Digital Filmmaking. In *the 8th ACM Conference on Creativity and Cognition*. Atlanta, Georgia. 2011. **Best Student Paper**.
 40. James Niehaus, **Boyang Li** and Mark O. Riedl. Automated Scenario Adaptation in Support of Intelligent Tutoring Systems. In *the 24th Conference of the Florida Artificial Intelligence Research Society*, 2011.

41. **Boyang Li** and Mark O. Riedl. An Offline Planning Approach to Game Plotline Adaptation. In *the 6th Conference on Artificial Intelligence for Interactive Digital Entertainment*, 45-50. Palo Alto, CA. 2010.
 42. **Boyang Li**, Han Yu, Zhiqi Shen, Chunyan Miao, Evolutionary Organizational Search, In *the 8th International Conference on Autonomous Agents and Multiagent Systems*, 1329-1330, Budapest, Hungary. 2009.
 43. **Boyang Li**, Yew-Soon Ong, Minh Nghia Le, Chi Keong Goh, Memetic Gradient Search, In *IEEE Congress on Evolutionary Computation*, 2894-2901. Hong Kong. 2008.
 44. Hock Beng Lim, Keck Voon Ling, Wenqiang Wang, Yuxia Yao, Mudasser Iqbal, **Boyang Li**, Xiaonan Yin, Tarun Sharma, The National Weather Sensor Grid. In *SenSys*, 369-370, 2007.
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1. Yinan Zhang, **Boyang Li**, You Yuan, and Chunyan Miao. Minimalist and High-performance Conversational Recommendation with Uncertainty Estimation for User Preference. *WSDM 2023 Workshop on Interactive Recommender Systems*. 2023.
 2. Tong Zhang, Yong Liu, Peixiang Zhong, Chen Zhang, Hao Wang, Chunyan Miao, and **Boyang Li**. Toward Knowledge-Enriched Conversational Recommendation System. *The 4th Workshop on NLP for ConvAI*. 2022.
 3. Xu Guo, Pengwei Xing, Siwei Feng, **Boyang Li**, and Chunyan Miao. Federated Learning with Diversified Preference for Humor Recognition. In *The International Workshop on Federated Learning for User Privacy and Data Confidentiality in Conjunction with IJCAI (FL-IJCAI 2020)*. 2020.
 4. Matthew Guzdial, Nathan Sturtevant and **Boyang Li**. Deep Static and Dynamic Level Analysis: A Study on Infinite Mario. In *The 3rd Experimental AI in Games Workshop*, Burlingame, CA. 2016.
 5. **Boyang Li**, Mohini Thakkar, Yijie Wang, and Mark O. Riedl. Data-Driven Alibi Story Telling for Social Believability. In *the Social Believability in Games Workshop*, Fort Lauderdale, FL. 2014.
 6. **Boyang Li**. Narrative Intelligence Without (Domain) Boundaries. In *Doctoral Consortium, the 8th Annual Conference on Artificial Intelligence and Interactive Digital Entertainment*. Palo Alto, CA. 2012.
 7. **Boyang Li**, Stephen Lee-Urban, and Mark O. Riedl. Toward Autonomous Crowd-Powered Creation of Interactive Narratives. In *the 5th Workshop on Intelligent Narrative Technologies*, Palo Alto, CA, 2012.
 8. **Boyang Li**, D. Scott Appling, Stephen Lee-Urban, and Mark O. Riedl. Learning Sociocultural Knowledge via Crowdsourced Examples. In *the 4th AAAI Workshop on Human Computation*, Toronto, Canada, 2012.
 9. **Boyang Li**, Stephen Lee-Urban, D. Scott Appling, and Mark O. Riedl. Automatically Learning to Tell Stories about Social Situations from the Crowd. In *the LREC 2012 Workshop on Computational Models of Narrative*, 2012.
 10. **Boyang Li** and Mark O. Riedl. A Phone That Cures Your Flu: Generating Imaginary Gadgets in Fictions with Planning and Analogies. In *the 4th Workshop on Intelligent Narrative Technologies*, Palo Alto, CA, 2011.

	<ol style="list-style-type: none"> 11. Mark O. Riedl and Boyang Li. Creating Customized Virtual Experiences by Leveraging Human Creative Effort: A Desideratum. In <i>the AAMAS'10 Workshop on Collaborative Human/AI Control for Interactive Experiences</i>, Toronto, Canada, 2010. 12. Boyang Li and Mark O. Riedl. Planning for Individualized Experiences with Quest-Centric Game Adaptation. In <i>the ICAPS'10 Workshop on Planning in Games</i>, Toronto, Canada, 2010.
PREPRINTS AND TECHNICAL REPORTS	<ol style="list-style-type: none"> 1. Yidan Sun, Qin Chao, Boyang Li. Synopses of Movie Narratives: a Video-Language Dataset for Story Understanding. arXiv:2203.05711. 2. Jun Chen, Ming Hu, Boyang Li, and Mohamed Elhoseiny. Efficient self-supervised vision pretraining with local masked reconstruction. arXiv:2206.00790. 3. Xin Zhou, Dejing Dou, and Boyang Li. Searching for Stage-wise Neural Graphs In the Limit. arXiv:1912.12860. 4. Isaac Ahern, Adam Noack, Luis Guzman-Nateras, Dejing Dou, Boyang Li, Jun Huan. NormLime: A New Feature Importance Metric for Explaining Deep Neural Networks. arXiv:1909.04200.
CONFERENCE DEMOS	<ol style="list-style-type: none"> 1. Yixiao Lan, Yuan Liu, Boyang Li, Chunyan Miao. Proof of Learning (PoLe): Empowering Machine Learning with Consensus Building on Blockchains (Demo). In <i>The 35th AAAI Conference on Artificial Intelligence</i>. Virtual Conference. 2021. 2. Boyang Li and Mark O. Riedl. Scheherazade: Crowd-Powered Interactive Narrative Generation. In <i>The 29th AAAI Conference on Artificial Intelligence</i>. Austin, TX. 2015. 3. Huiliang Zhang, Zhiqi Shen, Xuehong Tao, Chunyan Miao, Boyang Li, Ailiya, Yundong Cai. Emotional agent in serious game (DINO). In <i>The 8th International Conference on Autonomous Agents and Multiagent Systems</i>. Budapest, Hungary. 2009.
BOOK CHAPTER	<ol style="list-style-type: none"> 1. Boyang Li and Mark O. Riedl. Creating Customized Game Experiences by Leveraging Human Creative Effort: A Planning Approach. In <i>Agents for Games and Simulations II</i>. Frank Dignum (Ed.) LNAI 6525. 99-116, 2011.
PATENTS FILED	<ol style="list-style-type: none"> 1. Joint understanding of actors, literary characters, and movies. US Patent App. 16/057,440.
PATENTS ISSUED	<ol style="list-style-type: none"> 1. Systems and methods for determining semantic roles of arguments in sentences. US Patent No.: 11,164,087. Date of Patent: Nov 2, 2021 2. Alignment of video and textual sequences for metadata analysis. US Patent No.: 10,956,685. Date of Patent: Mar 23, 2021. 3. Dialog knowledge acquisition system and method. US Patent No.: 10,162,815. Date of Patent: Dec 25, 2018.
AWARDS	<p>Best Application Award</p> <ul style="list-style-type: none"> • FL-IJCAI'20 Workshop <p style="text-align: right;">2020</p>

Outstanding Program Committee Member, Nominated	
• The 25 th International Joint Conference on Artificial Intelligence (IJCAI)	2016
Best Program Committee Member, Honorable Mention	
• The 10 th Annual AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE)	2014
Travel Award	
• The 27 th AAAI Conference on Artificial Intelligence	2013
Best Student Paper	
• The 8th ACM Conference on Creativity and Cognition	2011
Dean's List	
• Nanyang Technological University	2004–2008

TEACHING

SC 4000 - Machine Learning, NTU

6 weeks per semester, Spring semesters, 2021-2023

- Covered shallow learning techniques including multi-layer perceptrons, support vector machines, linear regression, ensembles, density estimation, clustering, and principal component analysis. Class sizes ranging from 150 to 300.

AI 6103 - Deep Learning, NTU

13 weeks per semester, Fall and Spring semesters, 2021-2023

- Developed a new course from scratch for the Masters of Science in Artificial Intelligence (by Coursework) program. In addition to topics of CE/CZ7454, this course covers structured predictions in computer vision and natural language processing as well as programming with PyTorch.

CE 7454 - Deep Learning for Data Science, NTU

First 7 weeks, Fall semesters, 2021-2023

- Developed a new graduate-level course from scratch. The course covering Linear Algebra, Probability Theory, Linear Regression, Logistic Regression, Multi-layer Perceptron, Convolutional Neural Network (CNN), CNN variants (ResNet, DenseNet, MobileNet, EfficientNet, Grouped Convolution, Temporal Convolution, etc.), Optimization Algorithms (SGD, Momentum, ADAM, Newton-Raphson), and Regularization Techniques.

CZ/CE 1104 - Linear Algebra for Computing, NTU

Spring 2021

- Lab sessions for 2 groups of 60+ students

CZ/CE 1107 - Data Structures and Algorithms, NTU

Spring 2021

- Biweekly tutorials for 5 groups of 150+ students
- Lab sessions for 2 groups of 60+ students

CS 3600 - Introduction to Artificial Intelligence, Georgia Tech

Summer 2013

- Covered all machine learning lectures.
- Teaching assistant for 27 students.
- Overall student rating 4.25 / 5.

CS 3600 - Introduction to Artificial Intelligence, Georgia Tech

Spring 2014

- Three guest lectures on genetic algorithms, MDPs, and computational creativity for more than 100+ students.

CURRENT LAB MEMBERS	To accommodate different name order conventions, last names are underscored.	
	<u>Zhao</u> Junqi (Research Engineer)	2020-2023
	Anthony <u>Tiong</u> Meng Huat (Salesforce-sponsored Ph.D. Student)	2021-2023
	<u>Zhang</u> Tong (Ph.D. Student)	2021-2023
	<u>Li</u> Haoxin (Ph.D. Student)	2021-2023
	<u>Sun</u> Yidan (Ph.D. Student)	2021-2023
	<u>Chao</u> Qin (Alibaba-sponsored Ph.D. Student)	2021-2023
	<u>Du</u> Zilin (Ph.D. Student)	2022-2023
	<u>Luo</u> Jiayun (Master Student by Research)	2022-2023
	<u>Ma</u> Zhaoyi (Interdisciplinary Ph.D. Student)	2022-2023
FORMER LAB MEMBERS AT NTU	<u>Guo</u> Xu (Research Fellow)	2023-2023
	Devaansh Chandra <u>Gupta</u> (Research Assistant)	2023-2023
	<u>Lu</u> Xiaolei (Post Doc)	2021-2022
	<u>Liu</u> Chang (Ph.D. Student)	2020-2021
	<u>Chen</u> Yuanyuan (Ph.D. Student)	2020-2021
	<u>Liew</u> Zi Qin (Alibaba-sponsored Ph.D. Student)	2020-2021
	<u>Huang</u> Siyuan (Ph.D. Student)	2021
	<u>Hou</u> Yi (Master of Science in Artificial Intelligence)	2022
	<u>Xia</u> Yu (Master of Science in Artificial Intelligence)	2021
	<u>Wang</u> Wei Sheng (Master of Science in Artificial Intelligence)	2023
SUPERVISEES AT BAIDU RESEARCH	Ann <u>Chia</u> Jing Xiu (Master Student by Research)	2021-2023
	<u>Zhang</u> Yinan (Ph.D. Student)	2020-2023
	Han <u>Guo</u> (Intern)	2019
	Pradyumna Vijay <u>Tambwekar</u> (Intern)	2018
	Isaac <u>Ahern</u> (Ph.D. at Oregon State Univ.)	2019-2021
SUPERVISEES AT DISNEY RESEARCH	Adam <u>Noack</u> (Ph.D. at Oregon State Univ.)	2019-2020
	Ming <u>Sun</u> (Post Doc)	2016-2017
	Ashutosh <u>Modi</u> (Post Doc)	2017
	Sai Prabhakar Pandi Selvaraj (Research Associate)	2017
	Huijuan <u>Xu</u> (Intern)	2017
	Hannah <u>Kim</u> (Intern)	2017
	Denys <u>Katerenchuk</u> (Intern)	2017
	Sasha <u>Azad</u> (Intern)	2016-2017

	Erva <u>Ulu</u> (Intern)	2016-2017
	Matthew <u>Guzdial</u> (Intern)	2016
	Tong <u>Wang</u> (Intern)	2016
	Rogelio <u>Cardona-Rivera</u> (Intern)	2016
	Yi <u>Luan</u> (Intern)	2015
SUPERVISEES AT GEORGIA TECH	Yijie “Jimmy” <u>Wang</u> (B.S. Computer Science)	2013–2014
	Mohini <u>Thakkar</u> (M.S. Computer Science)	2013–2014
	John P. <u>Rafferty</u> (B.S. Computer Science)	2013
SERVICE	Associate Editor	
	• IEEE Transactions on Audio, Speech, and Language Processing	2023
	Senior Area Chair (Senior Meta-Reviewer)	
	• ACL Rolling Review	2023
	• EACL	2023
	Area Chair (Senior Meta-Reviewer)	
	• The AAAI Conference on Artificial Intelligence (AAAI)	2023
	Area Chair, Narrative Systems	
	• International Conference on Interactive Digital Storytelling (ICIDS)	2021
	Co-Chair	
	• The 8 th Intelligent Narrative Technologies Workshop (INT)	2015
	Proceedings Co-Chair	
	• The 10 th International Conference on the Foundations of Digital Games (FDG)	2015
	• The 9 th International Conference on the Foundations of Digital Games (FDG)	2014
	Journal Reviewer	
	• IEEE Intelligent Systems	2020
	• IEEE Transactions on Affective Computing	2019
	• Journal of Discourse and Dialogue	2017, 2018
	• The IEEE Transaction on Computational Intelligence and AI in Games (TCIAIG)	2012, 2015, 2016
	• Virtual Reality (Springer Journal)	2015
	Program Committee Member	
	• The Annual Meeting of the Association for Computational Linguistics (ACL) (2023)	
	• The International Conference on Computer Vision (ICCV) (2021-2023)	
	• The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) (2021-2023)	
	• The IEEE Winter Conference on Applications of Computer Vision (WACV) (2021-2023)	
	• The AAAI Conference on Artificial Intelligence (AAAI) (2019-2022)	
	• The International Joint Conference on Artificial Intelligence (IJCAI) (2016-2020)	
	• The Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT) (2018)	
	• The International Conference on Autonomous Agents and Multiagent Systems (AAMAS) (2016)	

	<ul style="list-style-type: none"> • The AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) (2014-2021) • The Foundation of Digital Games Conference (FDG) (2014-2018) • The International Conference on Interactive Digital Storytelling (ICIDS) (2016-2019) • The Experimental AI for Games Workshop (EXAG) (2014, 2018) 	
	Conference Webmaster	
	<ul style="list-style-type: none"> • The 8th Annual AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 	2012
	Student Volunteer	
	<ul style="list-style-type: none"> • The 27th AAAI Conference on Artificial Intelligence • The 2013 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL: HLT) 	
	Library Graduate Advisor Board, Georgia Tech	2011 to 2014
	<ul style="list-style-type: none"> • Acted as communication channel between students and the library • Reviewed the library budget and and planned for its renovation • Developed plans to employ AI and HCI techniques to meet the information needs of library users 	
	External Assessor, Executive Diploma in Information Technology (UFH), Center for Continuing Education, University of Malaya	2023
	Judge for the Singapore Science & Engineering Fair (for Junior College Students)	2023
	Judge for the Undergraduate Research Symposium Georgia Tech	2011, 2013
INVITED TALKS	Workshop on Effective Multimodal Perception and Interactive Learning, the Sixth Asia Conference on Cognitive Engineering and Intelligent Interaction. Hong Kong. Title: <i>Unlocking the Power of Large Pretrained Models Without Training</i>	Dec '23
	Workshop on Large Generative Models Meet Multimodal Applications, ACM International Conference on Multimedia. Ottawa, Canada. Title: <i>Unlocking Multimedia Capabilities of Gigantic Pretrained Models</i>	Nov '23
	Sungkyunkwan University, Suwon Campus, Korea Title: <i>Multimodal Machine Learning in the Era of Gigantic Pretrained Models</i>	Aug '23
	Korea Advanced Institute of Science & Technology (KAIST), Seoul Campus, Korea Title: <i>Multimodal Machine Learning in the Era of Gigantic Pretrained Models</i>	Aug '23
	Seoul National University, Korea Title: <i>Multimodal Machine Learning in the Era of Gigantic Pretrained Models</i>	Aug '23
	University of British Columbia, Canada Title: <i>Multimodal Machine Learning in the Era of Gigantic Pretrained Models: Challenges and (Some) Remedies</i>	Jun '23

University of Malaya, Kuala Lumpur, Malaysia Title: <i>Multimodal Machine Learning in the Era of Gigantic Pretrained Models: What's Next</i>	Mar '23
Tsinghua University, China Title: <i>Multimodal Machine Learning in the Era of Gigantic Pretrained Models</i>	Mar '23
Shandong University, China Title: <i>Multimodal Machine Learning in the Era of Gigantic Pretrained Models</i>	Feb '23
Differential Manifold and AI Forum (Online) Title: <i>Multimodal Machine Learning in the Era of Gigantic Pretrained Models</i>	Feb '23
GAMES-Webinar (Online) Title: <i>Multimodal Machine Learning in the Era of Gigantic Pretrained Models</i>	Oct '22
Shandong University (Virtual) Title: <i>Interpreting the Behaviors of Deep Neural Networks</i>	Aug '22
Microsoft Research Cambridge, UK Title: <i>Interpreting and Understanding Optimization Trajectories of Deep Neural Networks.</i>	May '22
Webank-NTU Joint Research Center Machine Learning Virtual Workshop Title: <i>Interpretability of Deep Neural Networks</i>	Nov '21
Young Scientist Forum, World Laureates Forum, Shanghai (Virtual) Title: <i>Utilizing Insights from Optimization Trajectories of Deep Learning</i>	Sep '21
Shandong University (Virtual) Title: <i>Improving Deep Learning by Understanding and Controlling the Optimization Trajectories</i>	Aug '21
Webank-NTU Joint Research Center Machine Learning Virtual Workshop Title: <i>Beyond End-to-end Training?</i>	Nov '20
Northeastern University, China (Virtual) Title: <i>Computational Narrative Intelligence.</i>	Jun '20
Webank-NTU Joint Research Center Workshop Title: <i>Interpreting and Defending Neural Networks.</i>	Jan '20
Indian Institute of Technology Patna (Virtual) Title: <i>Computational Narrative Intelligence.</i>	Jan '20
Alibaba Hangzhou Title: <i>Computational Narrative Intelligence.</i>	Jan '20
School of Software, Shandong University Title: <i>Computational Narrative Intelligence.</i>	Jan '20
Xiaomi Corporation Title: <i>Computational Narrative Intelligence.</i>	Jan '20
Stanford University, mediaX Culture and AI Symposium Title: <i>AI-Powered Interactive Media: The Verge of a New Era</i>	Oct '18

University of Utah	Oct '17
Title: <i>Computational Narrative Intelligence at Disney</i>	
Disney Consumer Products and Interactive	Oct '16
Title: <i>Deciphering the Success of Google's AlphaGo</i>	
University of Utah	Apr '15
Title: <i>Learning Knowledge to Support Domain-Independent Narrative Intelligence</i>	
University of Iowa	Apr '15
Title: <i>Learning Knowledge to Support Domain-Independent Narrative Intelligence</i>	
North Carolina State University	Mar '15
Title: <i>Learning Knowledge to Support Domain-Independent Narrative Intelligence</i>	
Singapore University of Technology and Design	Jul '14
Title: <i>Computational Narrative Intelligence: Connecting Symbolic and Statistical Methods</i>	
Nanyang Technological University	Jan '13
Title: <i>Computational Narrative Intelligence</i>	

PRESS COVERAGE

联合早报: 生成式AI善解人意的不完美助理 Retrieved at <https://www.zaobao.com.sg/lifestyle/feature/story20230213-1362525>

36Kr: 我有好酒, 但社交平台有好故事吗? 现在让迪士尼用新的AI技术帮你挖掘! Retrieved at <https://36kr.com/p/5089778.html>

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Popular Science: Algorithm Turns Fiction Into Interactive Games. September 3, 2015. Retrieved at <http://www.popsoci.com/algorithm-helps-you-write-an-interactive-fiction-story>

SOFTWARE PROJECTS	<i>Scalpl</i> : A partial-order planner in Scala.
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LANGUAGES	Mandarin Chinese	Bilingual / Native
	English	Bilingual / Native