

## Boyang “Albert” Li, Ph.D.

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| CONTACT INFORMATION           | 4720 Forbes Ave, Lower Level, Suite 110.<br>Pittsburgh, PA 15213, USA<br><a href="http://boyangli.co">http://boyangli.co</a><br><a href="https://scholar.google.com/citations?user=QwL4z2UAAAAJ">https://scholar.google.com/citations?user=QwL4z2UAAAAJ</a>  | +1-412-688-7406<br>albert.li@disneyresearch.com |
| OBJECTIVE                     | Conducting cutting-edge Artificial Intelligence research that enables innovative entertainment experiences with narrative elements.  |   |
| EDUCATION                     | <b>Georgia Institute of Technology</b> , Atlanta, GA<br>Ph.D., Computer Science, November 2014 <ul style="list-style-type: none"><li>• Dissertation: <i>Learning Knowledge to Support Domain-Independent Narrative Intelligence</i></li><li>• Advisor: Dr. Mark O. Riedl</li></ul> <b>Nanyang Technological University</b> , Singapore<br>B.E., Computer Engineering, June 2008 <ul style="list-style-type: none"><li>• First-Class Honors, Minor in Business</li></ul>  |   |
| PROFESSIONAL EXPERIENCES      | <b>Research Scientist</b><br>Disney Research, Pittsburgh, PA   | Jun '15 to Present                              |
|                               | <b>Post-Doctoral Researcher</b><br>Disney Research, Pittsburgh, PA   | Jan '15–Jun '15                                 |
|                               | <b>Graduate Research Assistant</b><br>School of Interactive Computing,<br>Georgia Institute of Technology, Atlanta, GA   | Aug '09–Dec '14                                 |
|                               | <b>AI Consultant</b><br>Walt Disney Imagineering, via Caseworks LLC  | Jun–Aug '11, May–Aug '10                        |
|                               | <b>Research Assistant</b><br>School of Computer Engineering,<br>Nanyang Technological University, Singapore<br>Supervisor: Dr. Chunyan Miao  | Jun '08–May '09                                 |
|                               | <b>Programmer</b><br>Philips Electronics, Singapore  | Jan–Jun '07                                     |
| REFEREED JOURNAL PUBLICATIONS | <ol style="list-style-type: none"><li>1. Baohan Xu, Yanwei Fu, Yu-Gang Jiang, <b>Boyang Li</b>, and Leonid Sigal. Heterogeneous Knowledge Transfer in Video Emotion Recognition, Attribution and Summarization. <i>IEEE Transaction on Affective Computing</i>. 2016.</li><li>2. <b>Boyang Li</b>. Humor: A Dynamic and Dual-Process Theory with Computational Considerations. <i>Advances in Cognitive Systems</i>, 4:57–74, 2016.</li><li>3. Jun Ji, Han Yu, <b>Boyang Li</b>, Huiguo Zhang. Learning Chinese Characters with Gestures. <i>International Journal of Information Technology</i>. 19(1), 2013.</li><li>4. <b>Boyang Li</b>, Stephen Lee-Urban, D. Scott Appling and Mark O. Riedl. Crowdsourcing Narrative Intelligence. <i>Advances in Cognitive Systems</i>. 2:25–42, 2012.</li><li>5. Yundong Cai, Chunyan Miao, Ah-Hwee Tan, Zhiqi Shen, and <b>Boyang Li</b>, Creating an Immersive Game World with Evolutionary Fuzzy Cognitive Maps, <i>IEEE Computer Graphics and Applications</i>, 30(2):58–70, 2010.</li></ol> |   |

1. 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. (Acceptance Rate: 25.0%)
2. 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. (Acceptance Rate: 18.8%)
3. Tong Wang, Ping Chen, and **Boyang Li**. Predicting the Quality of Short Narratives from Social Media. In *the 26th International Joint Conference on Artificial Intelligence (IJCAI)*. Melbourne, Australia. 2017. (Acceptance Rate: 25.9%)
4. 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. (Acceptance Rate: 25.9%)
5. 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.
6. Iolanda Leite, Andr 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.
7. 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. (Acceptance Rate: 27.7%)
8. 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. (Acceptance Rate: 18%)
9. **Boyang Li**. A Dynamic and Dual-Process Theory of Humor. In *the 3rd Annual Conference on Advances in Cognitive Systems*. Atlanta, GA. 2015.
10. 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.
11. **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. (Acceptance Rate: 29%)
12. **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. (Acceptance Rate: 29%)
13. **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. (Acceptance Rate: 50%)

14. **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. (Acceptance Rate: 23%) (Panel Presentation: 6%)
15. 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. (Acceptance Rate: 23%) (**Best Student Paper**)
16. 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. (Acceptance Rate: 50%)
17. **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. (Acceptance Rate: 29%)
18. **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.

REFEREED  
CONFERENCE  
POSTERS

1. 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*. Berlin, Germany. 2016.
2. **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.
3. **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.
4. **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.
5. 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.
6. **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.
7. 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.

REFEREED  
WORKSHOP  
PUBLICATIONS

1. 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.
2. **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.

3. **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.
4. **Boyang Li**, D. Scott Appling, Stephen Lee-Urban, and Mark O. Riedl. Learning Sociocultural Knowledge via Crowdsourced Examples. In *the 4th AAI Workshop on Human Computation*, Toronto, Canada, 2012.
5. **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.
6. **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.
7. Mark O. Riedl and **Boyang Li**. Creating Customized Virtual Experiences by Leveraging Human Creative Effort: A Desideratum. In *the AAMAS'10 Workshop on Collaborative Human/AI Control for Interactive Experiences*, Toronto, Canada, 2010.
8. **Boyang Li** and Mark O. Riedl. Planning for Individualized Experiences with Quest-Centric Game Adaptation. In *the ICAPS'10 Workshop on Planning in Games*, Toronto, Canada, 2010.

CONFERENCE  
DEMOS

1. **Boyang Li** and Mark O. Riedl. Scheherazade: Crowd-Powered Interactive Narrative Generation. In *The 29th AAI Conference on Artificial Intelligence*. Austin, TX. 2015.
2. Huiliang Zhang, Zhiqi Shen, Xuehong Tao, Chunyan Miao, **Boyang Li**, Ailiya, Yundong Cai. Emotional agent in serious game (DINO). In *The 8th International Conference on Autonomous Agents and Multiagent Systems*. Budapest, Hungary. 2009.

BOOK CHAPTER

1. **Boyang Li** and Mark O. Riedl. Creating Customized Game Experiences by Leveraging Human Creative Effort: A Planning Approach. In *Agents for Games and Simulations II*. Frank Dignum (Ed.) LNAI 6525. 99-116, 2011.

PATENTS FILED

1. Systems and Methods for Determining Semantic Roles of Arguments in Sentences. Filed on May 20, 2016
2. Semi-situated Learning of Verbal and Nonverbal Content in an Autonomous Agent. Filed on Sep 2, 2016

AWARDS

- Outstanding Program Committee Member, Nominated
- The 25<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI) 2016
- Best Program Committee Member, Honorable Mention
- The 10<sup>th</sup> Annual AAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2014
- Travel Award
- The 27<sup>th</sup> AAI Conference on Artificial Intelligence 2013
- Best Student Paper
- The 8th ACM Conference on Creativity and Cognition 2011

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|   | Dean's List  |           |
|   | <ul style="list-style-type: none"> <li>Nanyang Technological University</li> </ul>   | 2004–2008 |
| TEACHING<br>EXPERIENCE                            | <p><b>Teaching Assistant</b> Summer '13</p> <p>Georgia Institute of Technology</p> <p>CS 3600 - Introduction to Artificial Intelligence (27 students)</p> <ul style="list-style-type: none"> <li>Overall student rating 4.25 / 5.</li> <li>Covered the entire machine learning section.</li> </ul> <p><b>Guest Lecturer</b> Spring '14</p> <p>Georgia Institute of Technology</p> <p>CS 3600 - Introduction to Artificial Intelligence (100+ students)</p> <ul style="list-style-type: none"> <li>Gave three guest lectures on genetic algorithms, MDPs, and computational creativity.</li> </ul>  |           |
| SUPERVISED<br>POSTDOC,<br>STUDENTS AND<br>INTERNS | <p>Ashutosh Modi (Post Doc at Disney Research) 2017</p> <p>Sai Prabhakar Pandi Selvaraj (Research Associate at Disney Research) 2017</p> <p>Ming Sun (Post Doc at Disney Research) 2016-2017</p> <p>Huijuan Xu (Intern at Disney Research) 2017</p> <p>Hannah Kim (Intern at Disney Research) 2017</p> <p>Denys Katerenchuk (Intern at Disney Research) 2017</p> <p>Sasha Azad (Intern at Disney Research) 2016-2017</p> <p>Erva Ulu (Intern at Disney Research) 2016-2017</p> <p>Matthew Guzdial (Intern at Disney Research) 2016</p> <p>Tong Wang (Intern at Disney Research) 2016</p> <p>Rogelio Cardona-Rivera (Intern at Disney Research) 2016</p> <p>Yi Luan (Intern at Disney Research) 2015</p> <p>Yijie "Jimmy" Wang (B.S. Computer Science) 2013–2014</p> <p>Mohini Thakkar (M.S. Computer Science) 2013–2014</p> <p>John P. Rafferty (B.S. Computer Science) 2013</p> |           |
| SERVICE   | <p>Co-Chair</p> <ul style="list-style-type: none"> <li>The 8<sup>th</sup> Intelligent Narrative Technologies Workshop (INT) 2015</li> </ul> <p>Proceedings Co-Chair</p> <ul style="list-style-type: none"> <li>The 10<sup>th</sup> International Conference on the Foundations of Digital Games (FDG) 2015</li> <li>The 9<sup>th</sup> International Conference on the Foundations of Digital Games (FDG) 2014</li> </ul> <p>Journal Reviewer</p> <ul style="list-style-type: none"> <li>Journal of Discourse and Dialogue 2017</li> <li>Virtual Reality 2015</li> <li>The IEEE Transaction on Computational Intelligence and AI in Games (TCIAIG) 2012, 2015, 2016</li> <li>Virtual Reality (Springer Journal) 2015</li> </ul>  |           |

Program Committee Member

- The 13<sup>th</sup> Annual AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2017
- the 10<sup>th</sup> International Conference on Interactive Digital Storytelling (ICIDS) 2017
- The 12<sup>th</sup> Foundation of Digital Games Conference (FDG) (Artificial Intelligence Track) 2017
- The 26<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI) 2017
- The 12<sup>th</sup> Annual AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2016
- the 9<sup>th</sup> International Conference on Interactive Digital Storytelling (ICIDS) 2016
- The 1<sup>st</sup> Joint DiGRA/FDG Conference 2016
- The 25<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI) 2016
- The International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2016
- The 11<sup>th</sup> Annual AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2015
- The 10<sup>th</sup> Annual AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2014
- The Experimental AI for Games Workshop (EXAG) 2014

Conference Webmaster

- The 8<sup>th</sup> Annual AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2012

Student Volunteer

- The 27<sup>th</sup> 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

- Acted as communication channel between students and the library
- Reviewed the library budget and planned for its renovation
- Developed plans to employ AI and HCI techniques to meet the information needs of library users

Judge for the Undergraduate Research Symposium 2011, 2013

|               |   |         |
|---------------|---|---------|
| INVITED TALKS | Nanyang Technological University  | Jan '13 |
|               | Title: <i>Computational Narrative Intelligence</i>  |         |
|               | Singapore University of Technology and Design   | Jul '14 |
|               | Title: <i>Computational Narrative Intelligence: Connecting Symbolic and Statistical Methods</i> |         |
|               | North Carolina State University   | Mar '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>           |         |
|               | University of Utah  | Apr '15 |
|               | Title: <i>Learning Knowledge to Support Domain-Independent Narrative Intelligence</i>           |         |

Title: *Deciphering the Success of Google's AlphaGo*

PRESS  
COVERAGE

*Engadget*: Disney Research taught AI how to judge short stories. August 21, 2017. Retrieved at <https://www.engadget.com/2017/08/21/disney-research-taught-ai-to-judge-short-stories/>

*ACM TechNews*: A Good Read: AI Evaluates Quality of Short Stories. August 24, 2017. Retrieved at <https://cacm.acm.org/news/220486-a-good-read-ai-evaluates-quality-of-short-stories/fulltext>

*Techcrunch*: Disney experiments look to make kid-robot interactions more natural. June 26, 2017. Retrieved at <https://techcrunch.com/2017/06/26/disney-experiments-look-to-make-kid-robot-interactions-more-natural/>

*Inside the Magic*: Disney Research experimenting with interactive, storytelling robots to better connect with children. June 27, 2017. Retrieved at <http://www.insidethemagic.net/2017/06/disney-research-experimenting-interactive-storytelling-robots-better-connect-children/>

*New Scientist*: Automatic authors: Making machines that tell tales. Issue 2990. October 13, 2014.

*The Guardian*: Once upon a bot: can we teach computers to write fiction? November 11, 2014. Retrieved at <http://www.theguardian.com/books/2014/nov/11/can-computers-write-fiction-artificial-intelligence>

*Gizmag.com*: Creative AI: Teaching computers to be reporters and storytellers. February 9, 2015. Retrieved at <http://www.gizmag.com/creative-ai-automated-writing-storytelling/35989/>

*Science Friday, National Public Radio*: Rise of the Bot Author. March 13, 2015. Retrieved at <http://sciencefriday.com/segment/03/13/2015/rise-of-the-bot-author.html>

*Inside the Black Box, WREK Atlanta 91.1FM*: It's a Funny Story. July 1, 2015.

*Motherboard*: This AI Creates Interactive Fiction by Reading Other People's Stories. September 2, 2015. Retrieved at <http://motherboard.vice.com/read/this-ai-creates-interactive-fiction-by-reading-other-peoples-stories>

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

SOFTWARE  
PROJECTS

*Scalpl*: A partial-order planner in Scala.

LANGUAGES

|                  |                    |
|------------------|--------------------|
| Mandarin Chinese | Bilingual / Native |
| English          | Bilingual / Native |