Tak Yeon Lee

CONTACT
INFORMATION

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RESEARCH
INTERESTS

My research focuses on AI-infused data-centered design. More specifically, I am interested in creating symbiotic environments where human and AI solve challenging problems together.

PROFESSIONAL
EXPERIENCE

KAIST, Korea
Assistant Professor   **March 2021 – current**

Adobe, San Jose, CA
Research Scientist 2   **November 2017 – February 2021**

Adobe, San Jose, CA
Data Scientist Intern   **June 2017 – October 2017**

IBM, Cambridge, MA
Research Intern   **June 2012 – August 2012**

Microsoft, Redmond, WA
UX Design Intern   **June 2010 – August 2010**

EDUCATION

University of Maryland, College Park, Maryland, the United States
Doctor of Philosophy candidate, Computer Science
- Thesis: Toward Symbiotic Human-AI Interaction Focusing on Programming by Example
- Academic advisor: Professor Benjamin B. Bederson

Delft University of Technology, the Netherlands
Master of Science, Design for Interaction
- Academic advisor: Professor dr.Pieter Jan Stappers

Korea Advanced Institute of Science and Technology, South Korea
Bachelor of Science. Industrial Design (major), Computer Science (minor)

PUBLICATIONS

Latest updates on Google Scholar

Zeng, Z., Moh, P., Du, F., Hoffswell, J., Lee, T.Y., Malik, S., Koh, E., Battle, L. (2022). An Evaluation-Focused Framework for Visualization Recommendation Algorithms. IEEE Transactions on Visualization and Computer Graphics, 28, 346-356.

Qian, X., Rossi, R. A., Du, F., Kim, S., Koh, E., Malik, S., Lee, T. Y., Chan, J. (2021). Learning to Recommend Visualizations from Data. Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery Data Mining, 13591369. https://doi.org/10.1145/3447548.3467224

Xian, Y., Zhao, H., Lee, T. Y., Kim, S., Rossi, R., Fu, Z., de Melo, G., Muthukrishnan, S. (2021). EXACTA: Explainable Column Annotation. Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery amp; Data Mining, 37753785. https://doi.org/10.1145/3447548.3467211

Qian, X., Koh, E., Du, F., Kim, S., Chan, J., Rossi, R. A., Malik, S., Lee, T. Y. (2021). Generating Accurate Caption Units for Figure Captioning. Proceedings of the Web Conference 2021, 27922804. https://doi.org/10.1145/3442381.3449923

Lee, T.Y., Koh, E. (2018), Identifying Types of Misalignments between Promotion Emails and Landing Pages. *In Extended Abstracts of Conference on Human Factors in Computing Systems (CHI EA '18)*. ACM, New York, NY, USA.

Lipka N., Lee T.Y., Koh E. (2018) Detecting Link and Landing Page Misalignment in Marketing Emails. In: Elloumi M. et al. (eds) Database and Expert Systems Applications. DEXA 2018. Communications in Computer and Information Science, vol 903. Springer, Cham

Lee, T.Y., Smith, A., Seppi, K., Elmqvist, N., Boyd-Graber, J., and Findlater, L., The Human Touch: How Non-expert Users Perceive, Interpret, and Fix Topic Models. *International Journal of Human-Computer Studies*, Volume 105, September 2017, Pages 28-42, ISSN 1071-5819

Lee, T.Y., Dugan, C., and Bederson, B.B. Towards Understanding Human Mistakes of Programming by Example: An Online User Study. In *In Proceedings of the 22nd International Conference on Intelligent User Interfaces* (IUI '17). ACM, New York, NY, USA, 257-261

Lee, T.Y., and Bederson, B.B. Give the people what they want: studying end-user needs for enhancing the web. PeerJ Computer Science. https://doi.org/10.7717/peerj-cs.91, 2016

Smith, A., Lee, T.Y., Poursabzi-Sangdeh, F., Findlater, L., Boyd-Graber, J., Seppi, K., Elmqvist, N., and Findlater, L. Human-Centered and Interactive: Expanding the Impact of Topic Models. *CHI Human Centred Machine Learning Workshop*, 2016.

Smith, A., Lee, T.Y., Poursabzi-Sangdeh, F., Findlater, L., Boyd-Graber, J., and Elmqvist, N. Evaluating Visual Representations for Topic Understanding and Their Effects on Manually Generated Labels. *Transactions of the Association for Computational Linguistics*, 2016.

Lee, T.Y., Mauriello, M.L, Ahn, J., and Bederson, B.B. (2014, January). CTArcade: Computational thinking with games in school age children. *International Journal of Child-Computer Interaction*, Volume 2, Issue 1, January 2014, Pages 26-33, ISSN 2212-8689

Lee, T.Y., Dugan, C., Geyer, W., Ratchford, T., Rasmussen, J., Shami, N. S., and Lupushor, S. (2013, June). Experiments on Motivational Feedback for Crowdsourced Workers. *In Seventh International AAAI Conference on Weblogs and Social Media*

Lee, T.Y., Mauriello, M.L., Ingraham, J., Sopan, A., Ahn, J., Bederson, B.B., CTArcade: Learning Computational Thinking While Training Virtual Characters Through Game Play, *Extended Abstracts, Proc. ACM SIGCHI 2012: Conference on Human Factors in Computing Systems. Austin, TX*

Rios, M., Sharma, P., Lee, T.Y., Schwarts, R. and Shneiderman, B., TreeCovery: Coordinated dual treemap visualization for exploring the Recovery Act,*Government Information Quarterly (December 2011)* doi:10.1016/j.giq.2011.07.004

Gupta, N., Khurana, U., Lee, T.Y., Nawathe, S., Optimizing Display Advertisements Based on Historic User Trails, *SIGIR 2011 Workshop: Internet Advertising (IA2011)*

PATENTS   Dugan, C., Geyer, W., Lee, T.Y., Ratchford, T., Soule, T.S., Tracking changes in resumes to identify persons interested in acquiring a new position, US Patent App. 14/305,296, 2015

TEACHING   **University of Maryland**, College Park, MD, the United States
EXPERIENCE   *Teaching Assistant*   **January 2009 – December 2016**
- Introduction to Object-Oriented Programming I, II (7 semesters)
- Introduction to Computer Systems (1 semester)
- Introduction to Human-Computer Interaction (2 semesters)
- Python for non-major students (2 semesters)

Seoul Women's University, South Korea
Lecturer   **March 2008 – June 2008**
- Introduction to Human-Computer Interaction

Konkuk University, South Korea

Lecturer **March 2007 – June 2008**

- Design Studio (Undergraduate Graduation Project)
- Interaction design and Prototyping

EDITORIAL
EXPERIENCE

Peer reviewed the following conferences and journals
- ACM CHI Conference on Human Factors in Computing Systems
- International Conference on Advanced Visual Interfaces
- International Journal of Child-Computer Interaction
- Archives of Design Research

LANGUAGE

Korean (native), English (fluent)

PROGRAMMING
SKILLS

Data Science Scikit-Learn, NLTK, PyTorch, TensorflowJS, Information Visualization
Object-Oriented Programming Python, Java, Javascript
Front-End HTML5, React, Three.js
Hardware Prototyping Arduino, Processing, vvvv, Max/MSP

DESIGN &
RESEARCH
SKILLS

Visual Design Photoshop, Illustrator, Powerpoint, Rhino3D and Premiere
User Study Usability test, Contextual Inquiry, Crowdsourcing, A-B testing