Yong Jae Lee

University of California, Davis
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APPOINTMENTS

Associate Professor August 2021-
University of Wisconsin - Madison, Department of Computer Sciences

Cruise AI Visiting Faculty July 2020-Present
Cruise, San Francisco

Adjunct Associate Professor July 2021-June 2022
Associate Professor (with tenure) July 2020-June 2021
Assistant Professor July 2014-June 2020
University of California, Davis, Department of Computer Science

Postdoctoral Fellow
University of California, Berkeley, Department of EECS Sept 2013-June 2014
Carnegie Mellon University, Robotics Institute Aug 2012-Aug 2013
Supervised by Prof. Alexei A. Efros

Graduate Research Assistant June 2007-May 2012
University of Texas at Austin, Department of Computer Science
Supervised by Prof. Kristen Grauman

Research Intern June 2010-Sept 2010
Microsoft Research, Interactive Visual Media Group
Supervised by Dr. Larry Zitnick and Dr. Michael Cohen

EDUCATION

University of Texas at Austin, Austin, TX
Ph.D. in Electrical and Computer Engineering, May 2012
Thesis: "Visual Object Category Discovery in Images and Videos"
Supervised by Prof. Kristen Grauman

University of Texas at Austin, Austin, TX
M.S.E. in Electrical and Computer Engineering, August 2008
Thesis: "Foreground Focus: Finding Meaningful Features in Unlabeled Images"
Supervised by Prof. Kristen Grauman

University of Illinois at Urbana-Champaign, Champaign, IL
B.S. in Electrical Engineering (Honors), May 2006
Minor in Computer Science, Business

RESEARCH INTERESTS

My research interests are in computer vision, machine learning, and computer graphics. In particular, I am interested in creating robust recognition systems that can learn to understand visual data with minimal human supervision.

SELECTED HONORS AND AWARDS

- Best Paper Award, BMVC 2020
  For the paper, "Delving Deeper into Anti-aliasing in ConvNets", with Xueyan Zou, Fanyi Xiao, and Zhiding Yu.
- Sony Focused Research Award, 2020
- Most Innovative Award, COCO Object Detection Challenge, ICCV 2019
  For the paper, "YOLACT: Real-time Instance Segmentation", with Daniel Bolya, Chong Zhou, and Fanyi Xiao.
- UC Davis College of Engineering Outstanding Junior Faculty Award, 2019
  Awarded to one Assistant Professor in the entire College of Engineering each year.
- Adobe Data Science Research Award, 2019
- National Science Foundation (NSF) CAREER Award, 2018
- AWS Machine Learning Research Awards, 2018, 2019
- Army Research Office (ARO) Young Investigator Program (YIP) Award, 2017
- UC Davis Hellman Foundation Fellowship, 2017
  Awarded to Assistant Professors who exhibit potential for great distinction in their research. One of 15 awardees university-wide.
- Outstanding Reviewer Awards, ICCV 2013, CVPR 2015
- UT-Austin ECE dept. sole nominee for university-wide Outstanding Dissertation Award, 2012
- Doctoral Consortium Award, CVPR 2011

FUNDING

- (**PI**) Sony Focused Research Award
  "Unsupervised Fine-grained Controllable Image Generation", 2020-2021, $150,000.
- (**PI**) AWS Machine Learning Research Award
  "Real-time Object Instance Segmentation", 2019-2020, $100,000 AWS credits.
- (**PI**) Adobe Data Science Research Award
  "AI-powered Personalized Visual Content Creation", 2019-2020, $50,000.
- (**PI**) National Science Foundation Award IIS-1812850
  "RI: Small: Collaborative Research: Understanding Human-Object Interactions from First-person and Third-person Videos", 2018-2021, $150,000, with M. S. Ryoo (Indiana University).
- (**PI**) National Science Foundation CAREER Award IIS-1751206
  "CAREER: Weakly-Supervised Visual Scene Understanding: Combining Images and Videos, and Going Beyond Semantic Tags", 2018-2023, $500,499.

- (**PI**) AWS Machine Learning Research Award
  "Visual Reasoning and Representation Learning using Synthetic Data", 2018-2019, $25,000 (+$50,000 AWS credits).
- (**PI**) Army Research Office Young Investigator Program Award W911NF17-1-0410
  "A Machine Perception Framework for Detecting Familiar and Unfamiliar Objects in Video", 2017-2020, $360,000.
- (**PI**) National Science Foundation Award IIS-1748387
  "EAGER: Leveraging Synthetic Data for Visual Reasoning and Representation Learning with Minimal Human Supervision", 2017-2019, $200,000.
- (**PI**) UC Davis Hellman Fellowship
  "Automatic Decoding of Pain in the Horse", 2017-2018, $24,000.
- (**PI**) Gift funding from Adobe, 2017, $10,000.
- (**PI**) Gift funding from Seoho Electric, 2017, $15,000.
- (**PI**) Intel Labs
  "Scene Understanding Research for Egocentric Vision", 2016-2017, $22,500.
- (**PI**) Gift funding from Swedish Agricultural University, 2016, $33,000.
- (**co-PI**) UC Davis, New Initiative/Collaborative Interdisciplinary Grant
  "Big Data in Agriculture: Automated Fruit Detection in Orchards", 2015-2016, $15,820, with S. Ghiasi (PI), S. Vougioukas.

TEACHING EXPERIENCE

Faculty Instructor at UC Davis:

- ECS 174: Computer Vision (Undergraduate course). Spring 2020. Enrollment: 163. Instructor rating: 4.5/5.0
- ECS 269: Visual Recognition (Graduate course). Fall 2019. Enrollment: 54. Instructor rating: 4.5/5.0
- ECS 174: Computer Vision (Undergraduate course). Spring 2019. Enrollment: 171. Instructor rating: 4.4/5.0
- ECS 269: Visual Recognition (Graduate course). Fall 2018. Enrollment: 53. Instructor rating: 4.8/5.0
- ECS 174: Computer Vision (Undergraduate course). Spring 2018. Enrollment: 147. Instructor rating: 4.4/5.0
- ECS 289G: Visual Recognition (Graduate course). Winter 2018. Enrollment: 43. Instructor rating: 4.5/5.0
- ECS 174: Computer Vision (Undergraduate course). Spring 2017. Enrollment: 137. Instructor rating: 4.1/5.0
- ECS 289G: Visual Recognition (Graduate course). Fall 2016. Enrollment: 20. Instructor rating: 4.7/5.0
- ECS 289G: Visual Recognition (Graduate course). Fall 2015. Enrollment: 14. Instructor rating: 4.9/5.0

- ECS 189G: Intro to Computer Vision (Undergraduate course). Spring 2015. Enrollment: 141. Instructor rating: 4.2/5.0
- ECS 289H: Visual Recognition (Graduate course). Fall 2014. Enrollment: 15. Instructor rating: 4.9/5.0

Teaching Assistant at UT Austin:

- CS 376: Computer Vision (Undergraduate/Graduate course). Fall 2009, Spring 2011.

PUBLICATIONS

Books and Book Chapters

1. Fanyi Xiao and Yong Jae Lee. Localizing and Visualizing Relative Attributes. *Chapter in Visual Attributes.* R. Feris, C. Lampert, and D. Parikh, Editors. Springer, 2016.
2. Yong Jae Lee, Alexei A. Efros, and Martial Hebert. Discovering Mid-level Visual Connections in Space and Time. *Chapter in Visual Analysis and Geo-Localization of Large Scale Imagery.* A. Zamir, A. Hakeem, L. Van Gool, M. Shah, and R. Szeliski, Editors. Springer, 2016
3. Hyun Soo Park, Albert Ali Salah, Yong Jae Lee, Louis-Philippe Morency, Yaser Sheikh, Rita Cucchiara (Eds.). *Human Behavior Understanding.* Lecture Notes in Computer Science, Springer, 2014.

Journal Articles

1. Daniel Bolya*, Chong Zhou*, Fanyi Xiao, and Yong Jae Lee. YOLACT++: Better Real-time Instance Segmentation. *IEEE Trans. on Pattern Analysis and Machine Intelligence* (TPAMI), August 2020. (*equal contribution)
2. Farzad Fereidouni, Austin Todd, Yuheng Li, Che-Wei Chang, Keith Luong, Avi Rosenberg, Yong Jae Lee, James W. Chan, Alexander Borowsky, Karen Matsukuma, Kuang-Yu Jen, and Richard Levenson. Dual-mode Emission and Transmission Microscopy for Virtual Histochemistry using Hematoxylin- and Eosin-Stained Tissue Sections. *Biomedical Optics Express*, Vol. 10, No. 12, November 2019.
3. M. Rezaur Rahman, Jinyoung Han, Yong Jae Lee, and Chen-Nee Chuah. Analyzing the Adoption and Cascading Process of OSN-Based Gifting Applications: An Empirical Study. *ACM Transactions on the Web* (TWEB), Vol. 11, No. 2, April 2017.
4. Yong Jae Lee and Kristen Grauman. Predicting Important Objects for Egocentric Video Summarization. *International Journal of Computer Vision* (IJCV), Vol. 114, No. 1, pp. 38-55, January 2015.
5. Jun-Yan Zhu, Yong Jae Lee, and Alexei A. Efros. AverageExplorer: Interactive Exploration and Alignment of Visual Data Collections. *ACM Transactions on Graphics* (Proceedings of SIGGRAPH), Vol. 33, No. 4, July 2014.
6. Yong Jae Lee and Kristen Grauman. Object-Graphs for Context-Aware Visual Category Discovery. *IEEE Trans. on Pattern Analysis and Machine Intelligence* (TPAMI), Vol. 34, No. 2, pp. 346-358, February 2012.
7. Yong Jae Lee, C. Lawrence Zitnick, and Michael Cohen. ShadowDraw: Real-Time User Guidance for Freehand Drawing. *ACM Transactions on Graphics* (Proceedings of SIGGRAPH), Vol. 30, No. 4, July 2011.

8. Yong Jae Lee and Kristen Grauman. Foreground Focus: Unsupervised Learning from Partially Matching Images. *International Journal of Computer Vision* (IJCV), Vol. 85, No. 2, pp. 143-166, May 2009.

Peer Reviewed Conference Papers (acceptance rates typically $\sim$ 2%-25%)

1. Haotian Liu*, Rafael A. Rivera-Soto*, Fanyi Xiao, and Yong Jae Lee. YolactEdge: Real-time Instance Segmentation on the Edge. In *Proceedings of the IEEE International Conference on Robotics and Automation* (ICRA), Xi'an, China, June 2021. (*equal contribution)

2. Utkarsh Ojha, Yijun Li, Jingwan Lu, Alexei A. Efros, Yong Jae Lee, Eli Shechtman, and Richard Zhang. Few-shot Image Generation via Cross-domain Correspondence. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), June 2021.

3. Xueyan Zou, Linjie Yang, Ding Liu, and Yong Jae Lee. Progressive Temporal Feature Alignment Network for Video Inpainting. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), June 2021.

4. Utkarsh Ojha, Krishna Kumar Singh, and Yong Jae Lee. Generating Furry Cars: Disentangling Object Shape and Appearance across Multiple Domains. In *International Conference on Learning Representations* (ICLR), May 2021.

5. Rajat Arora and Yong Jae Lee. SinGAN-GIF: Learning a Generative Video Model from a Single GIF. In *IEEE Winter Conference on Applications of Computer Vision* (WACV), January 2021.

6. Utkarsh Ojha, Krishna Kumar Singh, Cho-Jui Hsieh, and Yong Jae Lee. Elastic-InfoGAN: Generative Modeling of Disentangled Representations in Class-Imbalanced Data. In *Neural Information Processing Systems* (NeurIPS), Vancouver, Canada, December 2020.

7. Xueyan Zou, Fanyi Xiao, Zhiding Yu, and Yong Jae Lee. Delving Deeper into Anti-aliasing in ConvNets. In *Proceedings of the British Machine Vision Conference* (BMVC), Manchester, United Kingdom, September 2020. (**oral presentation**, 5.1% acceptance rate)
Best Paper Award (1 of 670 submissions)

8. Xiuye Gu, Weixin Luo, Michael Ryoo, and Yong Jae Lee. Password-conditioned Anonymization and Deanonymization with Face Identity Transformers. In *Proceedings of the European Conference on Computer Vision* (ECCV), Glasgow, United Kingdom, August 2020.

9. Zainul Abi Din, Hari Venugopalan, Jaime Park, Andy Li, Weisu Yin, Haohui Mai, Yong Jae Lee, Steven Liu, Samuel T. King. Boxer: Preventing Fraud by Scanning Credit Cards. In *Proceedings of the USENIX Security Symposium* (USENIX Security), August 2020.

10. Yuheng Li, Krishna Kumar Singh, Utkarsh Ojha, and Yong Jae Lee. MixNMatch: Multifactor Disentanglement and Encoding for Conditional Image Generation. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Seattle, WA, June 2020.

11. Krishna Kumar Singh, Dhruv Mahajan, Kristen Grauman, Yong Jae Lee, Matt Feiszli, and Deepti Ghadiyaram. Don't Judge an Object by Its Context: Learning to Overcome Contextual Bias. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Seattle, WA, June 2020. (**oral presentation**, 5.7% acceptance rate)

12. Zhongzheng Ren, Zhiding Yu, Xiaodong Yang, Ming-Yu Liu, Yong Jae Lee, Alexander Schwing, and Jan Kautz. Instance-aware, Context-focused, and Memory-efficient Weakly-supervised Object Detection. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Seattle, WA, June 2020.

13. Maheen Rashid, Hedvig Kjellstrom, and Yong Jae Lee. Action Graphs: Weakly-supervised Action Localization with Graph Convolution Networks. In *IEEE Winter Conference on Applications of Computer Vision* (WACV), Aspen, CO, March 2020.

14. Daniel Bolya, Chong Zhou, Fanyi Xiao, and Yong Jae Lee. YOLACT: Real-time Instance Segmentation. In *Proceedings of the IEEE International Conference on Computer Vision* (ICCV), Seoul, Korea, November 2019. (**oral presentation**, 4.3% acceptance rate)
Most Innovative Award, COCO Object Detection Challenge, ICCV 2019

15. Fanyi Xiao, Haotian Liu, and Yong Jae Lee. Identity from here, Pose from there: Self-supervised Disentanglement and Generation of Objects using Unlabeled Videos. In *Proceedings of the IEEE International Conference on Computer Vision* (ICCV), Seoul, Korea, November 2019.

16. Krishna Kumar Singh*, Utkarsh Ojha*, and Yong Jae Lee. FineGAN: Unsupervised Hierarchical Disentanglement for Fine-Grained Object Generation and Discovery. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Long Beach, CA, June 2019. (*equal contribution) (**oral presentation**, 5.5% acceptance rate)

17. Krishna Kumar Singh and Yong Jae Lee. You reap what you sow: Using Videos to Generate High Precision Object Proposals for Weakly-supervised Object Detection. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Long Beach, CA, June 2019.

18. Xiuye Gu, Yijie Wang, Chongruo Wu, Yong Jae Lee, and Panqu Wang. HPLFlowNet: Hierarchical Permutohedral Lattice FlowNet for Scene Flow Estimation on Large-scale Point Clouds. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Long Beach, CA, June 2019.

19. Krishna Kumar Singh, Santosh Divvala, Ali Farhadi, and Yong Jae Lee. DOCK: Detecting Objects by transferring Common-sense Knowledge. In *Proceedings of the European Conference on Computer Vision* (ECCV), Munich, Germany, September 2018.

20. Fanyi Xiao and Yong Jae Lee. Video Object Detection with an Aligned Spatial-Temporal Memory. In *Proceedings of the European Conference on Computer Vision* (ECCV), Munich, Germany, September 2018.

21. Zhongzheng Ren, Yong Jae Lee, and Michael Ryoo. Learning to Anonymize Faces for Privacy Preserving Action Detection. In *Proceedings of the European Conference on Computer Vision* (ECCV), Munich, Germany, September 2018.

22. Mingyang Zhou, Runxiang Cheng, Yong Jae Lee, and Zhou Yu. A Visual Attention Grounding Neural Model for Multimodal Machine Translation. In *Proceedings of the Conference on Empirical Methods in Natural Language Processing* (EMNLP), Brussels, Belgium, November 2018.

23. Zhongzheng Ren and Yong Jae Lee. Cross-Domain Self-supervised Multi-task Feature Learning using Synthetic Imagery. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Salt Lake City, UT, June 2018.

24. Wenjian Hu, Krishna Kumar Singh*, Fanyi Xiao*, Jinyoung Han, Chen-Nee Chuah, and Yong Jae Lee. Who Will Share My Image? Predicting the Content Diffusion Path in Online Social Networks. In *ACM International Conference on Web Search and Data Mining* (WSDM), Los Angeles, CA, February 2018. (*equal contribution)

25. Maheen Rashid, Sofia Broome, Pia Andersen, Karina Gleerup, and Yong Jae Lee. What should I annotate? An automatic tool for finding video segments for EquiFACS annotation. In *International Conference on Methods and Techniques in Behavioral Research* (Measuring Behavior), Manchester, UK, June 2018.

26. Pia Andersen, Karina Gleerup, Jennifer Wathan, Britt Coles, Hedvig Kjellstrom, Sofia Broome, Yong Jae Lee, Maheen Rashid, Claudia Sonder, Erika Rosenberger, and Deborah Forster. Can a Machine Learn to See Horse Pain? An Interdisciplinary Approach Towards Automated Decoding of Facial Expressions of Pain in the Horse. In *International Conference on Methods and Techniques in Behavioral Research* (Measuring Behavior), Manchester, UK, June 2018.

27. Krishna Kumar Singh and Yong Jae Lee. Hide-and-Seek: Forcing a Network to be Meticulous for Weakly-supervised Object and Action Localization. In *Proceedings of the IEEE International Conference on Computer Vision* (ICCV), Venice, Italy, October 2017.

28. Fanyi Xiao, Leonid Sigal, and Yong Jae Lee. Weakly-supervised Visual Grounding of Phrases with Linguistic Structures. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Honolulu, HI, June 2017.

29. Maheen Rashid, Xiuye Gu, and Yong Jae Lee. Interspecies Knowledge Transfer for Facial Keypoint Detection. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Honolulu, HI, June 2017.

30. Chenyou Fan, Jangwon Lee, Mingze Xu, Krishna Kumar Singh, Yong Jae Lee, David Crandall and Michael Ryoo. Identifying First-Person Camera Wearers in Third-Person Videos. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Honolulu, HI, June 2017.

31. Zhongzheng Ren, Adriana Noronha, Annie Vogel Ciernia, and Yong Jae Lee. Who Moved My Cheese? Automatic Annotation of Rodent Behaviors with Convolutional Neural Networks. In *IEEE Winter Conference on Applications of Computer Vision* (WACV), Santa Rosa, CA, March 2017.

32. Krishna Kumar Singh and Yong Jae Lee. End-to-End Localization and Ranking for Relative Attributes. In *Proceedings of the European Conference on Computer Vision* (ECCV), Amsterdam, Netherlands, October 2016.

33. Fanyi Xiao and Yong Jae Lee. Track and Segment: An Iterative Unsupervised Approach for Video Object Proposals. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Las Vegas, NV, June 2016. (**spotlight presentation**, 9.7% acceptance rate)

34. Krishna Kumar Singh, Fanyi Xiao, and Yong Jae Lee. Track and Transfer: Watching Videos to Simulate Strong Human Supervision for Weakly-Supervised Object Detection. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Las Vegas, NV, June 2016.

35. Fanyi Xiao and Yong Jae Lee. Discovering the Spatial Extent of Relative Attributes. In *Proceedings of the IEEE International Conference on Computer Vision* (ICCV), Santiago, Chile, December 2015. (**oral presentation**, 3.3% acceptance rate)

36. Tinghui Zhou, Yong Jae Lee, Stella Yu, and Alexei A. Efros. FlowWeb: Joint Image Set Alignment by Weaving Consistent, Pixel-wise Correspondences. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Boston, MA, June 2015. (**oral presentation**, 3.3% acceptance rate)

37. Hyun Oh Song, Yong Jae Lee, Stefanie Jegelka, and Trevor Darrell. Weakly-supervised Discovery of Visual Pattern Configurations. In *Neural Information Processing Systems* (NIPS), Montreal, Canada, December 2014.

38. Yong Jae Lee, Alexei A. Efros, and Martial Hebert. Style-aware Mid-level Representation for Discovering Visual Connections in Space and Time. In *Proceedings of the IEEE International Conference on Computer Vision* (ICCV), Sydney, Australia, December 2013. (**oral presentation**, 2.5% acceptance rate)

39. Yong Jae Lee, Joydeep Ghosh, and Kristen Grauman. Discovering Important People and Objects for Egocentric Video Summarization. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Providence, RI, June 2012.

40. Yong Jae Lee, Jaechul Kim, and Kristen Grauman. Key-Segments for Video Object Segmentation. In *Proceedings of the IEEE International Conference on Computer Vision* (ICCV), Barcelona, Spain, November 2011.

41. Yong Jae Lee and Kristen Grauman. Face Discovery with Social Context. In *Proceedings of the British Machine Vision Conference* (BMVC), Dundee, Scotland, August 2011.

42. Yong Jae Lee and Kristen Grauman. Learning the Easy Things First: Self-Paced Visual Category Discovery. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Colorado Springs, CO, June 2011.

43. Yong Jae Lee and Kristen Grauman. Object-Graphs for Context-Aware Category Discovery. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), San Francisco, CA, June 2010. (**oral presentation**, 4.5% acceptance rate)

44. Yong Jae Lee and Kristen Grauman. Collect-Cut: Segmentation with Top-Down Cues Discovered in Multi-Object Images. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), San Francisco, CA, June 2010.

45. Yong Jae Lee and Kristen Grauman. Shape Discovery from Unlabeled Image Collections. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), Miami, FL, June 2009.

46. Yong Jae Lee and Kristen Grauman. Foreground Focus: Finding Meaningful Features in Unlabeled Images. In *Proceedings of the British Machine Vision Conference* (BMVC), Leeds, United Kingdom, September 2008. (**oral presentation**, 12.5% acceptance rate)

47. Changhai Xu, Yong Jae Lee, and Benjamin Kuipers. Ray-based Color Image Segmentation. In *Proceedings of the Canadian Conference on Computer and Robot Vision* (CRV), Windsor, Ontario, May 2008.

INVITED TALKS

- Keynote Talk, OpenMMLab Tutorial, CVPR 2021.
  "Real-time Instance Segmentation with the YOLACT Family."
- AI Summer School, Seoul National University, August 2020.
  "Learning Disentangled Visual Representations with Minimal Human Supervision."
- School of Interactive Computing Seminar, Georgia Tech, April 2020.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Computer Sciences Seminar, University of Wisconsin - Madison, April 2020.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Computer Science Colloquium, Purdue University, March 2020.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Computer Science Seminar, Brown University, March 2020.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Computer Vision Seminar, UC Berkeley, February 2020.
  "Learning to Understand Visual Data with Minimal Human Supervision."

- Cruise, San Francisco, CA, February 2020.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Google Research, Mountain View, CA, October 2019.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Computer Science Seminar, University of British Columbia, September 2019.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Computer Science Seminar, University of California, Irvine, September 2019.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Snap Research, Santa Monica, CA, September 2019.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- ECE Seminar, University of Southern California, September 2019.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Seminar, LG Research, Seoul, Korea, July 2019.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Computer Science Colloquium, University of Maryland, College Park, April 2019.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- Seminar, NVIDIA Research, Santa Clara, CA, March 2019.
  "Learning to Understand Visual Data with Minimal Human Supervision."
- CVPR Area Chair Workshop, San Diego, February 2019.
  "FineGAN: Unsupervised Hierarchical Disentanglement for Fine-Grained Object Generation and Discovery."
- Center for Mind and Brain Seminar, University of California, Davis, February 2019.
  "Learning to Localize, Generate, and Anonymize Objects with Indirect Supervision."
- Carnegie Mellon University, Robotics Institute VASC Seminar, October 2018.
  "Learning to Localize and Anonymize Objects with Indirect Supervision."
- Data Science Institute Seminar, Lawrence Livermore National Laboratory, September 2018.
  "Learning to Localize and Anonymize Objects with Indirect Supervision."
- Computer Vision Seminar, KAIST University, Seoul, Korea, August 2018.
  "Learning to Localize and Anonymize Objects with Indirect Supervision."
- Korean Conference on Computer Vision, Seoul, Korea, July 2018.
  "Cross-Domain Self-supervised Multi-task Feature Learning using Synthetic Imagery."
- Computer Vision Seminar, UC Berkeley, July 2018.
  "Learning to Localize and Anonymize Objects with Indirect Supervision."
- Center for Vision, Cognition, Learning, and Autonomy Seminar, UCLA, February 2018.
  "Learning to See with Weak Human Supervision."
- Computational Neuroscience Seminar, University of California, Davis, November 2017.
  "Computer Vision for Animal Behavior Recognition."
- Seminar, Intel Labs, Santa Clara, CA, October 2017.
  "Learning to See with Minimal Human Supervision."
- Seoul National University, UNIST, Samsung, LG, Naver, Kakao, Korea, August 2017.
  "Learning Where and How to Look for Weakly-Supervised Visual Recognition."

- Keynote Talk, VALSE Seminar, China, April 2017.
  "Learning Where and How to Look for Weakly-Supervised Visual Recognition."
- Keynote Talk, 1st International Workshop on Human Activity Analysis with Highly Diverse Cameras, Santa Rosa, CA, March 2017.
  "Hide-and-Seek: Forcing a Network to be Meticulous for Weakly-Supervised Object and Action Localization."
- Computer Science Colloquium, Sonoma State University, September 2016.
  "Attending to the Right Image Regions for Weakly-Supervised Visual Recognition."
- Seminar, Lawrence Livermore National Laboratory, September 2016.
  "Discovering the Relevant Image Regions for Weakly-Supervised Visual Recognition."
- Machine Learning Seminar, University of California, Davis, December 2015.
  "Watching Videos to Simulate Strong Human Supervision for Visual Recognition."
- Korean Conference on Computer Vision, Seoul, Korea, August 2015.
  "Interactive Exploration and Alignment of Visual Data Collections."
- Computational Neuroscience Seminar, University of California, Davis, May 2015.
  "Visual Data Mining in Image Collections."
- Computer Science Departmental Colloquium, University of California, Davis, April 2014.
  "Visual Data Mining in Image Collections."
- Computer Science Departmental Seminar, University of Massachusetts, Amherst, March 2014.
  "Visual Data Mining in Image Collections."
- Creative Technologies Lab, Adobe Research, San Francisco, CA, February 2014.
  "Visual Data Mining in Image Collections."
- IEEE International Conf. on Computer Vision, Sydney, Australia, December 2013.
  "Style-aware Mid-level Representation for Discovering Visual Connections in Space and Time."
- IEEE CVPR Workshop on Egocentric Vision, Providence, RI, June 2012.
  "Discovering Important People and Objects for Egocentric Video Summarization."
- Carnegie Mellon University, Robotics Institute VASC Seminar, Pittsburgh, December 2011.
  "Visual Category Discovery in Images and Videos."
- Microsoft Research, MSRNE Vision Seminar, Boston, MA, December 2011.
  "Visual Category Discovery in Images and Videos."
- ACM SIGGRAPH conference, Vancouver, Canada, August 2011.
  "ShadowDraw: Real-Time User Guidance for Freehand Drawing."
- Microsoft Research, Vision Technology (VisTech) Seminar, Redmond, WA, June 2010.
  "Collect-Cut: Segmentation with Top-Down Cues Discovered in Multi-Object Images."
- IEEE Conf. on Computer Vision and Pattern Recognition, San Francisco, CA, June 2010.
  "Object-Graphs for Context-Aware Category Discovery."
- British Machine Vision Conference, Leeds, U.K., September 2008.
  "Foreground Focus: Finding Meaningful Features in Unlabeled Images."

PATENTS

- C. Lawrence Zitnick, Yong Jae Lee, and Michael Cohen. Realtime User Guidance for Freehand Drawing. US Patent 20,120,295,231. Granted Nov 2012.

LIVE DEMOS

- Daniel Bolya, Chong Zhou, Fanyi Xiao, and Yong Jae Lee. YOLACT: Real-time Instance Segmentation. ICCV 2019.
- Zhongzheng Ren, Yong Jae Lee, Hyun Jong Yang, and Michael Ryoo. Activity-Preserving Face Anonymization for Privacy Protection. ECCV 2018.

PROFESSIONAL SERVICE ACTIVITY

- **Area Chair:** CVPR 2021, ACCV 2020, ECCV 2020, ICCV 2019, CVPR 2019, ICVGIP 2016
- **Associate Editor:** IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2020-Present
- **Associate Editor:** Journal of Artificial Intelligence Research (JAIR), 2019-Present
- **Associate Editor:** Journal of Visual Communication and Image Representation (JVCI), 2016-Present
- **Senior Program Committee:** IJCAI 2016, AAAI 2020, IJCAI 2020
- **Conference Program Committee:**
  - CVPR 2011-2018, 2020 (**Outstanding Reviewer Award CVPR 2015**)
  - ICCV 2009, 2011, 2013, 2015, 2017 (**Outstanding Reviewer Award ICCV 2013**)
  - ECCV 2012, 2014, 2018
  - NeurIPS 2015, 2018, 2019, 2020
  - ICML 2018, 2019
  - ACCV 2014
  - WACV 2021
- **Journal Reviewer:** International Journal of Computer Vision (IJCV), IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), ACM SIGGRAPH, ACM SIGGRAPH ASIA, ACM Multimedia, Pacific Graphics, Computer Graphics Forum, IEEE Transactions on Human-Machine Systems
- **Workshop Program Committee:** International Workshop on Attention/Intention Understanding (AIU), ACCV 2018; 1st International Workshop on Egocentric Perception, Interaction and Computing (EPIC), ECCV 2016; 4th Workshop on Web-scale Vision and Social Media (VSM), ECCV 2016; 4th International Workshop on Large Scale Visual Recognition and Retrieval (BigVision), CVPR 2016; 1st Workshop on Storytelling with Images and Videos, ECCV 2014; Workshop on Learning From Unlabeled Videos (LUV) CVPR 2020
- **Panelist:** NSF 2018, NSF 2017, NSF 2016, DOE 2016
- **Chair / Co-Chair:** Demo & Exhibition, CVPR 2019
- **Organizer:** 4th Workshop on Egocentric (First-Person) Vision, CVPR 2016
- **Organizer:** 3rd Workshop on Egocentric (First-Person) Vision, CVPR 2014
- **Organizer:** 5th Workshop on Human Behavior Understanding, ECCV 2014

- **Faculty Advisor:** AggieMentors Outreach Program, UC Davis, 2018-2020
- **Mentor:** AggieMentors Science Fair Mentor, UC Davis, 2017-2019
- **Judge:** AggieMentors Science Fair Judge, UC Davis, 2016; RoboPlay C-STEM Video Judge, UC Davis, 2016-2020
- **Organizer:** UT-Austin Vision and Learning Reading Group, 2008-2012
- **UC Davis Committees:**
  - Research and Library Committee (2014-2020)
  - Graduate Admissions Committee (2014-2016, 2017-2018)
  - Faculty Recruitment Committee (NLP 2016-2017, Comp. Neuroscience 2017-2018, ML 2019-2020)
  - Faculty Representative Committee (2018-2020)
  - Data Science Committee (2019-2020)

ADVISING ACTIVITY

- Fanyi Xiao (PhD student), 2015-2020
  - **UC Davis Best Graduate Researcher in Computer Science Award 2018**
  - Next position: Research Scientist at Amazon Research
- Krishna Kumar Singh (PhD student), 2015-2020
  - **UC Davis Best Graduate Researcher in Computer Science Award (Honorable Mention) 2019**
  - Next position: Research Scientist at Adobe Research
- Maheen Rashid (PhD student), 2015-Present
- Xueyan Zou (PhD student), 2018-Present
- Utkarsh Ojha (PhD student), 2019-Present
- Haotian Liu (PhD student), 2019-Present
- Yuheng Li (PhD student), 2020-Present
- Rafael A. Rivera-Soto (MS student), 2020-Present
- Zhongzheng (Jason) Ren (MS student), 2016-2018
  - Next position: PhD student at UIUC
- Wenjian Hu (MS student / Physics PhD), 2017-2018
  - Next position: Research Scientist at Facebook
- Leonardo Ferrer (MS student), 2017-2018
  - Next position: Software Engineer at Google
- Chong Zhou (MS student), 2019-2020
  - Next position: PhD student at UNC

- Yuheng Li (MS student), 2019-2020
  - Next position: PhD student at UC Davis
- Wei-Pang (Tyler) Jan (MS student), 2019-2020
  - Next position: Software Engineer at Amazon
- Antonia Creswell (undergraduate student), 2014-2015
  - Next position: PhD student at Imperial College London
- Xie Zhou (undergraduate student), 2017-2018
  - Next position: MS student at UC Berkeley
- Yi Mang (Terry) Yang (undergraduate student), 2017-2018
  - Next position: Software Engineer at Amazon
- Daniel Bolya (undergraduate student), 2018-2019
  - **Chancellor's Award for Excellence in Undergraduate Research (Honorable Mention) 2019**
  - Next position: PhD student at Georgia Tech
- Aron Sarmasi (undergraduate student), 2018-2019
  - Next position: MS student at UC Davis
- Waiyu Lam (undergraduate student), 2019-2020
  - Next position: MS student at Cornell
- Qi Zhu (undergraduate intern), 2015 summer
  - Next position: MS student at UIUC
- Xiuye Gu (undergraduate intern), 2016 summer
  - Next position: MS student at Stanford
- Haolin Fu (undergraduate intern), 2016 summer
  - Next position: MS student at Yale
- Haotian Liu (undergraduate intern), 2018 summer
  - Next position: PhD student at UC Davis
- Hao Yu (undergraduate intern), 2018 summer
  - Next position: PhD student at Boston University
- Gautam Pradeep (high school student), 2016-2019
  - **1st place, National Environmentors Science Fair 2017**
  - **2nd place, National Environmentors Science Fair 2018**
  - Next position: undergraduate student at Stanford