

Curriculum Vitae

Jia-Bin Huang

I. Personal Information

Education

- 2012–2016 **Ph.D.**, University of Illinois, Urbana-Champaign, Illinois.
Electrical and Computer Engineering, Coordinated Science Lab
Advisor: Narendra Ahuja
Thesis Title: “Visual Analysis and Synthesis with Physically Grounded Constraints”
- 2010–2012 **Master of Science**, University of Illinois, Urbana-Champaign, Illinois.
Electrical and Computer Engineering, Coordinated Science Lab
Thesis Title: “Saliency Detection via Divergence Analysis: A Unified Perspective”
Advisor: Narendra Ahuja
- 2002–2006 **Bachelor of Science**, *National Chiao-Tung University*, Hsin-Chu, Taiwan.
Department of Electronics Engineering
Undergraduate thesis: “Information Preserving Color Transformation for the Colorblind”
Advisor: Sheng-Jyh Wang

Employment

- Fall 2022 - **Department of Computer Science, of Maryland, College Park**
Capital One Endowed Associate Professor (tenured)
- 2021–2022 **Computational Photography group, Meta Reality Labs, Seattle.**
Research Scientist, Manager: Johannes Kopf
- 2016–2021 **Department of Electrical and Computer Engineering, Virginia Tech.**
Assistant Professor
- Summer 2020 **Computational Photography group, Facebook, Seattle.**
Visiting Research Scientist. Host: Johannes Kopf
- Summer 2019 **Computational Photography group, Facebook, Seattle.**
Visiting Research Scientist. Host: Johannes Kopf
- Summer 2014 **Disney Research Pittsburgh.**
Research Intern. Mentor: Leonid Sigal and Sung Ju Hwang
- Summer 2013 **Multimedia, Interaction, and Communication Group, Microsoft Research.**
Research Intern. Mentor: Zhengyou Zhang

- Summer 2012 **Interactive Visual Media (IVM) Group, Microsoft Research.**
Research Intern. Mentor: Johannes Kopf and Sing Bing Kang
- 2010-2016 **Electrical and Computer Engineering, University of Illinois, Urbana-Champaign.**
Research Assistant. Advisor: Narendra Ahuja
- Spring 2009 **Electrical Engineering and Computer Science, University of California, Merced.**
Visiting student. Mentor: Ming-Hsuan Yang
- 2008-2009 **Institute of Information Science, Academia Sinica.**
Research Assistant. Mentor: Chu-Song Chen
- 2005-2006 **Electronics Engineering, National Chiao-Tung University.**
Research Assistant. Mentor: Sheng-Jyh Wang

II. **Research, Scholarly, Creative and/or Professional Activities**

Google Scholar (as of Feb 10, 2023):

- **Citations** 17,960; **h-index:** 51; **i10-index:** 80 (All)
- **Citations** 16,486; **h-index:** 48; **i10-index:** 77 (Since 2018)

Articles in Refereed Journals

1. Yuliang Zou, Jinwoo Choi, Qitong Wang, and Jia-Bin Huang
Learning Representational Invariances for Data-Efficient Action Recognition
Computer Vision and Image Understanding (CVIU), 2022
2. Qi Mao, Hsin-Ying Lee, Hung-Yu Tseng, Jia-Bin Huang, Siwei Ma, and Ming-Hsuan Yang
Continuous and Diverse Image-to-Image Translation via Signed Attribute Vectors
International Journal of Computer Vision (IJCV), 2022
3. Badour AlBahar, Jingwan Lu, Jimei Yang, Zhixian Shu, Eli Shechtman, and Jia-Bin Huang.
Pose with Style: Detail-Preserving Pose-Guided Image Synthesis with Conditional StyleGAN
ACM Transactions on Graphics (TOG), 2021 (*Proceedings of SIGGRAPH Asia*)
4. Yu-Lun Liu, Wei-Sheng Lai, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang.
Learning to See Through Obstructions with Layered Decomposition
IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2021
5. Xuan Luo, Jia-Bin Huang, Richard Szeliski, Kevin Matzen, Johannes Kopf.
Consistent Video Depth Estimation.
ACM Transactions on Graphics (TOG), 2020
6. Yun-Chun Chen, Yen-Yu Lin, Ming-Hsuan Yang, and Jia-Bin Huang.
Show, Match and Segment: Joint Weakly Supervised Learning of Semantic Matching and Object Co-segmentation.
IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2020
7. Hsin-Ying Lee, Hung-Yu Tseng, Qi Mao, Jia-Bin Huang, Yu-Ding Lu, Maneesh Singh, Ming-Hsuan Yang.

- DRIT++: Diverse Image-to-Image Translation via Disentangled Representations. *International Journal of Computer Vision (IJCV)*, 2020
8. Shun Zhang, Jia-Bin Huang, Jongwoo Lim, Yihong Gong, Jinjun Wang, Narendra Ahuja, and Ming-Hsuan Yang.
Tracking Persons-of-Interest via Unsupervised Representation Adaptation.
International Journal of Computer Vision (IJCV), 2020
 9. Dong Li, Jia-Bin Huang, Yali Li, Shengjin Wang, and Ming-Hsuan Yang. Progressive Representation Adaptation for Weakly Supervised Object Localization.
IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2019
 10. Yijun Li, Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang.
Joint Image Filtering with Deep Convolutional Networks.
IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2019
 11. Kai-Wen Hsiao, Jia-Bin Huang, and Hung-Kuo Chu.
Multi-view Wire Art.
ACM Transactions on Graphics (TOG), 2018
 12. Wei-Sheng Lai, Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang.
Fast and Accurate Image Super-Resolution with Deep Laplacian Pyramid Networks.
IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2018
 13. Chao Ma, Jia-Bin Huang, Xiaokang Yang, and Ming-Hsuan Yang.
Robust Visual Tracking via Hierarchical Convolutional Features.
IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2018
 14. Chao Ma, Jia-Bin Huang, Xiaokang Yang, and Ming-Hsuan Yang.
Adaptive Correlation Filters with Long-Term and Short-Term Memory for Object Tracking.
International Journal of Computer Vision (IJCV), 2018
 15. Yuki Kawana, Norimichi Ukita, Jia-Bin Huang, and Ming-Hsuan Yang.
Ensemble of Convolutional Neural Networks for Pose Estimation.
Computer Vision and Image Understanding (CVIU), 2018
 16. Jia-Bin Huang, Sing Bing Kang, Narendra Ahuja, and Johannes Kopf.
Temporally Coherent Completion of Dynamic Video.
ACM Transactions on Graphics (TOG), 2016
 17. Jia-Bin Huang, Johannes Kopf, Narendra Ahuja, and Sing Bing Kang.
Image Completion using Planar Structure Guidance.
ACM Transactions on Graphics (TOG), 2014
 18. Jia-Bin Huang, Yu-cheng Tseng, Se-In Wu, and Sheng-Jyh Wang.
Information Preserving Color Transformation for Protanopia and Deuteranopia.
IEEE Signal Processing Letters, 2017

Articles in Refereed Conferences

1. Yiran Xu, Badour AlBahar, Jia-Bin Huang
Temporally Consistent Semantic Video Editing
European Conference on Computer Vision (ECCV), 2022

2. Yuliang Zou, Zizhao Zhang, Chun-Liang Li, Han Zhang, Tomas Pfister, Jia-Bin Huang
Learning Instance-Specific Adaptation for Cross-Domain Segmentation
European Conference on Computer Vision (ECCV), 2022
3. Songwei Ge, Thomas Hayes, Harry Yang, Xi Yin, Guan Pang, David Jacobs, Jia-Bin Huang, Devi Parikh
Long Video Generation with Time-Agnostic VQGAN and Time-Sensitive Transformer
European Conference on Computer Vision (ECCV), 2022
4. Xuejian Rong, Jia-Bin Huang, Ayush Saraf, Changil Kim, Johannes Kopf
Boosting View Synthesis with Residual Transfer
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022
5. Benjamin Attal, Jia-Bin Huang, Michael Zollhöfer, Johannes Kopf, and Changil Kim
Learning Neural Light Fields with Ray-Space Embedding Networks
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022
6. Zhixiang Wang, Xiang Ji, Jia-Bin Huang, Shin'ichi Satoh, Xiao Zhou, and Yinqiang Zheng
Neural Global Shutter: Learn to Restore Video from a Rolling Shutter Camera with Global Reset Feature
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022
7. Peiye Zhuang, Jia-Bin Huang, Ayush Saraf, Xuejian Rong, Changil Kim, and Denis Demandolx
AMICO: Amodal Instance Composition
British Machine Vision Conference (BMVC), 2021
8. Chen Gao, Ayush Saraf, Johannes Kopf, and Jia-Bin Huang
Dynamic View Synthesis from Dynamic Monocular Video
International Conference on Computer Vision (ICCV), 2021
9. Yu-Lun Liu, Wei-Sheng Lai, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang.
Hybrid Neural Fusion for Full-frame Video Stabilization
International Conference on Computer Vision (ICCV), 2021
10. Johannes Kopf, Xuejian Rong and Jia-Bin Huang
Robust Consistent Video Depth Estimation.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021
11. Wenqi Xian, Jia-Bin Huang, Johannes Kopf, and Changil Kim
Space-time Neural Irradiance Fields for Free-Viewpoint Video.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021
12. Ting-I Hsieh*, Esther Robb*, Hwann-Tzong Chen, and Jia-Bin Huang
DropLoss for Long-Tail Instance Segmentation.
AAAI Conference on Artificial Intelligence (AAAI), 2021
13. Chen Gao, Ayush Saraf, Jia-Bin Huang, and Johannes Kopf
Flow-edge Guided Video Completion.
European Conference on Computer Vision (ECCV), 2020
14. Chen Gao, Jiarui Xu, Yuliang Zou, Jia-Bin Huang
DRG: Dual Relation Graph for Human-Object Interaction Detection.
European Conference on Computer Vision (ECCV), 2020
15. Hsin-Ping Huang, Hung-Yu Tseng, Hsin-Ying Lee, and Jia-Bin Huang
Semantic View Synthesis.
Proceedings of European Conference on Computer Vision (ECCV), 2020

16. Yun-Chun Chen*, Chen Gao*, Esther Robb, and Jia-Bin Huang
NAS-DIP: Learning Deep Image Prior with Neural Architecture Search
European Conference on Computer Vision (ECCV), 2020
17. Jinwoo Choi, Gaurav Sharma, Samuel Schulter, and Jia-Bin Huang
Shuffle and Attend: Video Domain Adaptation.
European Conference on Computer Vision (ECCV), 2020
18. Chia-Wen Kuo, Chih-Yao Ma, Jia-Bin Huang, and Zsolt Kira
FeatMatch: Feature-Based Augmentation for Semi-Supervised Learning.
European Conference on Computer Vision (ECCV), 2020
19. Yuliang Zou, Pan Ji, Quoc-Huy Tran, Jia-Bin Huang, and Manmohan Chandraker
Learning Monocular Visual Odometry via Self-Supervised Long-Term Modeling.
European Conference on Computer Vision (ECCV), 2020
20. Meng-Li Shih, Shih-Yang Su, Johannes Kopf, and Jia-Bin Huang.
3D Photography using Context-aware Layered Depth Inpainting.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020.
21. Yu-Lun Liu, Wei-Sheng Lai, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang. Learning to See Through Obstructions.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020
22. Yu-Lun Liu, Wei-Sheng Lai, Yu-Sheng Chen, Yi-Lung Kao, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang.
Single-Image HDR Reconstruction by Learning to Reverse the Camera Pipeline.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020
23. Jheng-Wei Su, Hung-Kuo Chu, and Jia-Bin Huang.
Instance-aware Image Colorization.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020.
24. Hung-Yu Tseng, Hsin-Ying Lee, Jia-Bin Huang, and Ming-Hsuan Yang.
Cross-Domain Few-Shot Classification via Learned Feature-Wise Transformation. *International Conference on Learning Representations (ICLR), 2020*
25. Yuliang Zou, Jimei Yang, Duygu Ceylan, Jianming Zhang, Federico Perazzi, and Jia-Bin Huang.
Reducing Footskate in Human Motion Reconstruction with Ground Contact Constraints. *IEEE Winter Conference on Applications of Computer Vision (WACV), 2020*
26. Jinwoo Choi, Gaurav Sharma, Manmohan Chandraker, and Jia-Bin Huang.
Unsupervised and Semi-Supervised Domain Adaptation for Action Recognition from Drones.
IEEE Winter Conference on Applications of Computer Vision (WACV), 2020
27. Jinwoo Choi, Chen Gao, Joseph C. E. Messou, and Jia-Bin Huang.
Why Can't I Dance in the Mall? Learning to Mitigate Scene Bias in Action Recognition.
Neural Information Processing Systems (NeurIPS), 2019
28. Badour AlBahar and Jia-Bin Huang.
Guided Image-to-Image Translation with Bi-Directional Feature Transformation.
IEEE International Conference on Computer Vision (ICCV), 2019.
29. Yun-Chun Chen, Yen-Yu Lin, Ming-Hsuan Yang, and Jia-Bin Huang.
CrDoCo: Pixel-level Domain Transfer with Cross-Domain Consistency.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019
30. Yuan-Ting Hu, Hong-Shuo Chen, Kexin Hui, Jia-Bin Huang, and Alexander Schwing.

- SAIL-VOS: Semantic Amodal Instance Level Video Object Segmentation - A Synthetic Dataset and Baselines.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019
31. Wei-Yu Chen, Yen-Cheng Liu, Zsolt Kira, Yu-Chiang Frank Wang, and Jia-Bin Huang.
A Closer Look at Few-shot Classification.
International Conference on Learning Representation (ICLR), 2019
 32. Steve T.K. Jan, Joseph Messou, Yen-Chen Lin, Jia-Bin Huang, and Gang Wang.
Connecting the Digital and Physical World: Improving the Robustness of Adversarial Attacks.
AAAI Conference on Artificial Intelligence (AAAI) 2019
 33. Chen Gao, Yuliang Zou, and Jia-Bin Huang.
iCAN: Instance-Centric Attention Network for Human-Object Interaction Detection.
British Machine Vision Conference (BMVC), 2018
 34. Yun-Chun Chen, Po-Hsiang Huang, Li-Yu Yu, Jia-Bin Huang, Ming-Hsuan Yang, and Yen-Yu Lin.
Deep Semantic Matching with Foreground Detection and Cycle-Consistency.
Asian Conference on Computer Vision (ACCV), 2018
 35. Po-Han Huang, Kevin Matzen, Johannes Kopf, Narendra Ahuja, and Jia-Bin Huang.
DeepMVS: Learning Multi-View Stereopsis.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018
 36. Yuan-Ting Hu, Jia-Bin Huang, and Alexander Schwing.
Unsupervised Video Object Segmentation using Motion Saliency-Guided Spatio-Temporal Propagation.
European Conference on Computer Vision (ECCV), 2018
 37. Yuan-Ting Hu, Jia-Bin Huang, and Alexander Schwing.
VideoMatch: Matching based Video Object Segmentation.
European Conference on Computer Vision (ECCV), 2018
 38. Wei-Sheng Lai, Jia-Bin Huang, Oliver Wang, Eli Shechtman, Ersin Yumer, Ming-Hsuan Yang.
Learning Blind Video Temporal Consistency.
European Conference on Computer Vision (ECCV), 2018
 39. Yuliang Zou, Zelun Luo, and Jia-Bin Huang.
DF-Net: Unsupervised Joint Learning of Depth and Flow using Cross-Task Consistency.
European Conference on Computer Vision (ECCV), 2018
 40. Hsin-Ying Lee*, Hung-Yu Tseng*, Jia-Bin Huang, Maneesh Singh, Ming-Hsuan Yang.
Diverse Image-to-Image Translation via Disentangled Representations.
European Conference on Computer Vision (ECCV), 2018 (Oral Presentation)
 41. Yun-Chun Chen, Po-Hsiang Huang, Li-Yu Yu, Jia-Bin Huang, Ming-Hsuan Yang, and Yen-Yu Lin.
Deep Semantic Matching with Foreground Detection and Cycle-Consistency.
Asian Conference on Computer Vision (ACCV) 2018
 42. Thanassis Rikakis, Aisling Kelliher, Jinwoo Choi, Jia-Bin Huang, Kris Kitani, Steve Wolf, and Setor Zilevu.
Semi-Automated Home-based Therapy for the Upper Extremity of Stroke Survivors. *Pervasive Technologies Related to Assistive Environments (PETRA), 2018*
 43. Wei-Sheng Lai, Jia-Bin Huang, and Ming-Hsuan Yang. Semi-Supervised Learning for Optical

- Flow with Generative Adversarial Networks.
Neural Information Processing Systems (NeurIPS), 2017
44. Yuan-Ting Hu, Jia-Bin Huang, and Alex Schwing.
MaskRNN: Instance Level Video Object Segmentation.
Neural Information Processing Systems (NeurIPS), 2017
 45. Hing-Ying Lee, Jia-Bin Huang, M. Singh and M.-H. Yang.
Unsupervised Representation Learning by Sorting Sequences.
International Conference on Computer Vision (ICCV), 2017
 46. Wei-Sheng Lai Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang.
Deep Laplacian Pyramid Networks for Fast and Accurate Single Image Super-Resolution.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017
 47. Yijun Li, Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang.
Deep Joint Image Filter.
European Conference on Computer Vision (ECCV), 2016
 48. Dong Li, Wei-Chih Hung, Jia-Bin Huang, Shengjin Wang, Narendra Ahuja, and Ming-Hsuan Yang.
Unsupervised Visual Representation Learning by Graph-based Consistent Constraints.
European Conference on Computer Vision (ECCV), 2016
 49. Shun Zhang, Yihong Gong, Jia-Bin Huang, Jongwoo Lim, Jinjun Wang, Narendra Ahuja, and Ming-Hsuan Yang.
Tracking Persons-of-Interest via Adaptive Discriminative Features.
European Conference on Computer Vision (ECCV), 2016
 50. Dong Li, Jia-Bin Huang, Yali Li, Shengjin Wang, and Ming-Hsuan Yang. Weakly Supervised Object Localization with Progressive Domain Adaptation.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016
 51. Jia-Bin Huang, Rich Caruana, Andrew Farnsworth, Steve Kelling, and Narendra Ahuja,
Detecting Migrating Birds at Night.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016
 52. Wei-Sheng Lai, Jia-Bin Huang, Zhe Hu, Narendra Ahuja, and Ming-Hsuan Yang. A Comparative Study for Single Image Blind Deblurring.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016
 53. Jia-Bin Huang, Abhishek Singh, and Narendra Ahuja.
Single Image Super-Resolution from Transformed Self-Exemplars.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2015
 54. Chao Ma, Jia-Bin Huang, Xiaokang Yang, and Ming-Hsuan Yang.
Hierarchical Convolutional Features for Visual Tracking.
IEEE International Conference on Computer Vision (ICCV), 2015
 55. Jia-Bin Huang, Qin Cai, Zicheng Liu, Narendra Ahuja, and Zhengyou Zhang.
Towards Accurate and Robust Cross-Ratio based Gaze Trackers Through Learning From Simulation.
ACM Symposium on Eye Tracking Research & Applications, (ETRA), 2014 (Best Paper Award)
 56. Jia-Bin Huang, Johannes Kopf, Narendra Ahuja, and Sing Bing Kang.
Transformation Guided Image Completion.
International Conference on Computational Photograph (ICCP), 2013
 57. Jia-Bin Huang and Narendra Ahuja.

Saliency Detection via Divergence Analysis: A Unified Perspective.
International Conference on Pattern Recognition (ICPR), 2012 (Best Paper Award)

58. Chih-Yuan Yang, Jia-Bin Huang, and Ming-Hsuan Yang.
Exploiting Self-Similarities for Single Frame Super-Resolution.
Asian Conference on Computer Vision (ACCV), 2010
59. Jia-Bin Huang and Ming-Hsuan Yang.
Fast Sparse Representation with Prototypes.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2010
60. Jia-Bin Huang and Ming-Hsuan Yang.
Estimating Human Pose from Occluded Images.
Asian Conference on Computer Vision (ACCV), 2009
61. Jia-Bin Huang and Chu-Song Chen.
Moving Cast Shadow Detection Using Physics-based Features.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2009

Articles in Refereed Workshops

1. Yen-Chen Lin, Ming-Yu Liu, Min Sun, and Jia-Bin Huang.
Detecting Adversarial Attacks on Neural Network Policies with Visual Foresight Proceedings of *Neural Information Processing Systems (NeurIPS) Workshop on Machine Deception, 2017*
2. Jia-Bin Huang and Chu-Song Chen
Learning Moving Cast Shadows for Foreground Detection.
Eighth International Workshop on Visual Surveillance, 2008
3. Jia-Bin Huang and Chu-Song Chen
Enhancing Color Representation for the Color Vision Impaired.
Workshop on Computer Vision Applications for the Visually Impaired, 2008

Tutorials, Talks, Abstracts, and Other Professional Papers Presented

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|-----------|--|
| Dec 2022 | University of Washington , GRAIL Vision Seminar |
| Nov 2022 | Ohio State University , <i>AI Seminar in Computer Science and Engineering</i> |
| Nov 2022 | Harvard University , Guest Lecture in C197 |
| Nov 2022 | Virginia Tech , <i>Computer Science Seminar</i> |
| July 2021 | University of Oxford, United Kingdom , <i>Visual Geometry Group Seminar.</i> |
| July 2021 | Ecole des Ponts ParisTech, United Kingdom , <i>IMAGINE lab seminar.</i> |

May 2021 **National Yang Ming Chiao Tung University, Taiwan**, *Computer Science Colloquium.*

April 2021 **Georgia Tech**, *School of Interactive Computing Seminar.*

April 2021 **University of Texas, Austin**, *Electrical and Computer Engineering seminar.*

April 2021 **Cornell University**, *Computer Science Colloquium.*

March 2021 **University of Michigan, Ann Arbor**, *ECE Faculty Recruiting Seminar.*

March 2021 **University of North Carolina Chapel Hill**, *Computer Science Colloquium.*

Feb 2021 **University of California, Merced**, *EECS Department Seminar.*

Feb 2021 **3M**, *Non-Tenured Faculty Award Symposium.*

Feb 2021 **University of Bristol**, *Visual Information Laboratory Seminar.*

Jan 2021 **University of Illinois, Urbana-Champaign**, *Computer Vision seminar, external speaker series.*

Jan 2021 **Massachusetts Institute of Technology**, *3D Representations Reading Group.*

Dec 2020 **Google**, *Machine Perception Seminar*

Oct 2020 **Georgia Tech**, *Machine Learning Seminar.*

Oct 2020 **Rice University**, *Computer Science Colloquium.*

April 2020 **University of Illinois, Urbana-Champaign**, *Vision Lunch.*

April 2020 **Nanyang Technological University, Singapore**, *Invited talk.*

Jan 2020 **National Taiwan University, Taiwan**, *Department of Computer Science and Information Engineering Seminar.*

Jan 2020 **Media Tek**, *Invited talk*

Jan 2019 **National Taiwan University, Taiwan**, *Department of Computer Science and Information Engineering Seminar.*

Jan 2019 **Appier**, *Invited talk*

Jan 2018 **National Taiwan University, Taiwan**, *Department of Computer Science and Information Engineering Seminar.*

March 2016 **Virginia Tech**, *Department of Electrical and Computer Engineering*

March 2016 **University of Minnesota, Twin Cities**, *Computer Science Seminar*

- March 2016 **North Carolina State University, ECE Seminar**
- March 2016 **Arizona State University, School of Computing, Informatics, and Decision Systems Engineering**

Research Grants

- 2022-2023 **Reflection Removal from Structured Light Fields,**
Sole-PI, Denso Corp.
Award amount: \$121,250. Personal share: 100%
- 2021-2022 **Intelligent Augmented Reality for the Future of Work,**
Co-PI, Center for Human Computer Interaction,
Award amount: 33K. Personal share: 20%
- 2021-2024 **CH: Semi-Automated Rehabilitation in the Home,**
Co-PI, National Science Foundation Smart and Connected Health,
Award amount: \$1,100,000. Personal share: 8%.
- 2020-2022 **Learning with Limited Supervision,**
Sole-PI, 3M Non-tenured Faculty Award, 3M.
Award amount: \$45,000. Personal share: 100%
- 2020-2021 **Reducing Biases in Visual Recognition,**
PI, 4-VA Collaborative Research.
Award amount: \$25,000. Personal share: 100% (with Vicente Roman at University of Virginia)
- 2020-2022 **Rapid Predictive Analytical Model Deployment in Vehicles,**
Co-PI, Ford.
Award amount: \$204,851. Personal share: 50% (with Brian Mayer)
- 2019-2022 **CPS: Medium: Computation-Aware Autonomy for Timely and Resilient Multi-Agent Systems,**
Co-PI, Cyber-Physical System (CPS), National Science Foundation.
Award amount: \$1,197,661. Personal share: 25% (with Ryan William, Haibo Zeng, Changhee Jung)
- 2020-2022 **Sensor Technology Applied to Rehabilitation in Stroke Rehabilitation Strategies, Co-PI, Techniques, and Interventions program,** Rehabilitation Engineering Research Centers (RERC).

Award amount: \$349,209. Personal share: 25% (with Thanasis Rikakis, Aisling Kelliher)
- 2019-2020 **Dancing Plants: Integrating Plant Imaging and Acoustics to Improve Plant Growth, Co-PI, ICAT SEAD Grant, ICAT, Virginia Tech.**
Award amount: \$ 25,000. Personal share: 20% (with Bingyu Zhao, Ivica Bukvic,

Daniel Pillis)

- 2019-2021 **Novel View Synthesis and 3D Reconstruction from Structured Inputs**,
Sole-PI, Denso Corp.
Award amount: \$200,000. Personal share: 100%
- 2019-2020 **Instance-level Video Object Segmentation in the Wild**, *Co-PI*, *Global Outreach Award (GRO)*, Samsung.
Award amount: \$100,000. Personal share: 25% (with Alexander Schwing at UIUC)
- 2018-2019 **Human-centric Activity Understanding with Relational Reasoning**, *Sole-PI*,
Google Faculty Research Award, Google.
Award amount: \$53,375. Personal share: 100%
- 2018-2019 **Instance-level Video Object Segmentation in the Wild**
Co-PI, *Global Outreach Award (GRO)*, Samsung
Award amount: \$98,945. Personal share: 50% (with Alexander Schwing at UIUC)
- 2018-2020 **CRII: RI: Representation Learning and Adaptation using Unlabeled Videos**,
Sole-PI, *CISE Research Initiation Initiative Award*, National Science Foundation.
Award amount: \$172,903. Personal share: 100%
- 2017-2018 **Source Form: An Automated Crowdsourced Object Generator**,
Co-PI, *ICAT SEAD Grant* .
Award amount: \$ 25,000. Personal share: 50% (with Sam Blanchard and Christopher B. Williams)

Gifts

- 2023 **Meta Research Award, \$50,000**, Meta
- 2022 **Adobe Research: \$15,000**, Adobe
- 2021 **Google Research: \$10,000**, Google
- 2020 **Facebook Reality Labs. \$10,000**, Facebook
- 2020 **Adobe Research. \$7,000**, Adobe.
- 2020 **Adobe Research. \$10,000**, Adobe.
- 2020 **Facebook Reality Labs. \$10,000**, Facebook.
- 2019 **Facebook Reality Labs. \$15,000**, Facebook.
- 2019 **Google Cloud Research Credits Program. \$5,000**, Google AI
- 2018 **Google Cloud Research Credits Program. \$5,000**, Google AI

2018 **NVIDIA GPU Grant: Titan Xp**, *NVIDIA Corp*

2018 **PFPP Cybersecurity. \$15,000**, *PFPP Cybersecurity*

2018 **Adobe Research. \$10,000**, *Adobe*

2017 **NVIDIA GPU Grant: Titan Xp**, *NVIDIA Corp.*

2017 **Faculty mentoring grant. \$1,500**, *Office of the Provost, Virginia Tech*

2016 **NVIDIA GPU Grant: Titan X**, *NVIDIA Corp..*

Fellowships, Prizes and Awards

Mar 2020 **3M Non-tenure Faculty Award**, *3M.*

Mar 2019 **Google Faculty Award**, *Google.*

Oct 2019 **Outstanding Reviewer Award**, *Neural Information Processing System 2019.*

July 2017 **Outstanding Reviewer Award**, *IEEE Computer Vision and Pattern Recognition 2017.*

Dec 2016 **Outstanding Reviewer Award**, *Visual Communications and Image Processing.*

Feb 2016 **Best Talk Award**, *Coordinated Science Laboratory Student Conference, UIUC.*

May 2015 **Dissertation Completion Fellowship**, *Graduate College, UIUC.*

May 2015 **Cognitive Science / Artificial Intelligence Award**, *Beckman Institute, UIUC.*

April 2015 **Thomas and Margaret Huang Award for Graduate Research**, *Beckman Institute, UIUC.*

April 2015 **First place**, *Team Space Design Competition, NASA Jet Propulsion Laboratory.*

Mar 2015 **Conference Travel Award**, *Graduate College, UIUC.*

July 2014 **MOE Technologies Incubation Scholarship**, *Ministry of Education, Taiwan.*
Annual scholarship 42,000 USD for three years

Mar 2014 **Best Long Paper Award**, *ACM Symposium on Eye Tracking Research, ETRA 2014.*
For our work on learning-based eye tracking

Mar 2014 **Sundaram Seshu International Student Fellowship**, *ECE, UIUC.* UIUC ECE departmental fellowship

Dec 2014 **PURE Best Project Award x3**, *Promoting Undergraduate Research in Engineering, UIUC.* Michael Qiu (Fall 2014), Zelun Luo, Anarghya Mitra (Spring

2013), and Sakshi Srivastava (Fall 2012)

- Dec 2012 **Best Mentor of the Semester**, *Promoting Undergraduate Research in Engineering*, UIUC.
- Nov 2012 **Best Student Paper Award**, *International Conference on Pattern Recognition*, ICPR 2012. For our work "Saliency Detection via Divergence Analysis: A unified perspective."

III. **Teaching, Extension, Mentoring, and Advising**

Courses Taught in the Last Five Years

- Fall 2022, CMSC 733 Computer Processing of Pictorial Information
- Spring 2021, ECE 5424/CS 5824 Advanced Machine Learning.
- Fall 2020, ECE/CS 6524 Deep Learning.
- Spring 2020, ECE 5424/CS 5824 Machine Learning.
- Fall 2019, ECE/CS 6524 Deep Learning.
- Spring 2019, ECE 5424/CS 5824 Advanced Machine Learning.
- Fall 2018, ECE 5554/4554 Computer Vision.
- Spring 2018, ECE 1754 Introduction to Programming.
- Fall 2017, ECE 5554/4554 Computer Vision.
- Spring 2017, ECE 6554 Advanced Computer Vision.
- Fall 2016, ECE 5554/4554 Computer Vision.

Advising: Research Directions

Undergraduate

- **Elizabeth Qiu**, CS, UMD
- **Michael Qiu**, CE, UIUC.
Project: Enhancing Portrait Photographs **Best PURE project award**
- **Le Wang**, ECE, UIUC.
Project: Video-based Physiology Signal Monitoring **Third Place, The Image of Research**
Next position: MS student at Stanford University
- **Zelun Luo**, ECE, UIUC.
Project: Video-based identity and expression recognition (with Anarghya Mitra) **Best PURE project award**

Next position: PhD student at Stanford University (Advisor: Fei-Fei Li)

- **Anarghya Mitra**, *ECE, UIUC*.
Project: Video-based identity and expression recognition (with Zelun Luo) **Best PURE project award**
Next position: Software engineer at Google
- **JunYoung Gwak**, *CS, UIUC*.
Project: Pose-aware online visual tracking **Jeffrey P. Blahut Memorial Scholarship**
Next position: PhD student at Stanford University (Advisor: Silvio Savarese)
- **Linjia Chang**, *ECE, UIUC*.
Project: Image smoothing for structure extraction
Next position: Firmware engineer at Intel Corporation
- **Sakshi Srivastava**, *ECE, UIUC*.
Project: Face expression enhancement **Best PURE project award**
Next position: PhD student at University of Illinois, Urbana-Champaign
- **Kevin Han**, *ECE, UIUC*.
Project: Static and dynamic hand gesture recognition
Next position: PhD student at UC Berkeley
- **Danyang (Mike) Wang**, *ECE, UIUC*.
Project: Real-time face detection, tracking and attribute recognition
Next position: Master student at University of Illinois, Urbana-Champaign

Master

- **Lowell Weissman**, *M.S. student*, Virginia Tech. (Expected graduation 2022)
- **Esther Robb**, *M.S. student*, Virginia Tech, **Bradley Research Fellowships**. (Graduated 2021)
Thesis: Data-Efficient Learning in Image Generation and Instance Segmentation
Next position: PhD student at Stanford University
- **Shih-Yang Su**, *M.S. student*, Virginia Tech. (Graduated 2020)
Thesis: Learning to handle occlusion for motion analysis and view synthesis
Next position: PhD student at The University of British Columbia (Advisor: Helge Rhodin)
- **Joseph Messou**, *M.S. student*, Virginia Tech, **New Horizon Graduate Scholarship**. (Graduated 2020)
Thesis: Handling Invalid Pixels in Convolutional Neural Networks
Next position: PhD student at The University of Maryland
- **Adithya Reddy**, *ECE, Virginia Tech*. (Graduated 2018)
MS Thesis: Unsupervised Learning of Spatiotemporal Features by Video Completion
Next position: Software engineer at Qualcomm

- **Subhashree Radhakrishnan**, *MEng student*, Virginia Tech. (Graduated 2019)
Next position: Deep Learning Engineer at NVIDIA
- **Po-Han Huang**, *ECE, UIUC*. (Graduated 2018)
MS Thesis: DeepMVS: Learning Multi-View Stereopsis
Next position: Deep Learning Engineer at NVIDIA

Doctoral

- **Jinwoo Choi**, *Ph.D. student*, Virginia Tech, **Bindi Prasad Scholarship**. (Graduated 2020)
Thesis: Action Recognition with Knowledge Transfer
Next position: Assistant Professor at Kyung Hee Univeristy (Korea)
- **Yuliang Zou**, *Ph.D. student*, Virginia Tech. (Graduated 2022)
Next position: Research Scientist at Waymo
- **Chen Gao**, *Ph.D. student*, Virginia Tech. (Graduated 2022)
Next position: Research Scientist at Meta
- **Badour AlBahar**, *Ph.D. student*, Virginia Tech, **Kuwait University Scholarship**. (Expected graduation 2022)
- **Yiran Xu**, *Ph.D. student*, University of Maryland College Park. (Expected graduation 2024)
- **Yue Feng**, *Ph.D. student*, University of Maryland College Park. (Expected graduation 2025)
- **Songwei Ge**, *Ph.D. student*, University of Maryland College Park. (Expected graduation 2024)
- **Yi-Ting Chen**, *Ph.D. student*, University of Maryland College Park. (Expected graduation 2025)
- **Kevin Zhang**, *Ph.D. student*, University of Maryland College Park. (Expected graduation 2025)
- **Ting-Hsuan Liao**, *Ph.D. student*, University of Maryland College Park. (Expected graduation 2026)
- **Yao-Chih Lee**, *Ph.D. student*, University of Maryland College Park. (Expected graduation 2026)
- **Hadi Alzayer**, *Ph.D. student*, University of Maryland College Park. (Expected graduation 2026)

Visiting Students

- **Chieh Hubert Lin**, *B.S. student*, National Tsing Hua University.
Now PhD student at University of California, Merced (Advisor: Ming-Hsuan Yang)

- **Yun-Chun Chen**, *B.S. student*, National Taiwan University
Now PhD student at University of Toronto
- **Meng-Li Shih**, *B.S. student*, National Tsing Hua University.
Now PhD student at University of Washington
- **Jin-Dong Dong**, *B.S. student*, National Tsing Hua University.
Now PhD student at Carnegie Mellon University
- **Wei-Yu Chen**, *B.S. student*, National Taiwan University.
Now PhD student at Carnegie Mellon University
- **Yen-Chen Lin**, *B.S. student*, National Tsing Hua University.
Now PhD student at Massachusetts Institute of Technology (Advisor: Phillip Isola and Alberto Rodriguez)
- **Hao-Wei Yeh**, *Ph.D. student*, University of Tokyo.
Now PhD student at University of Tokyo
- **Chen Gao**, *M.S. student*, University of Michigan, Ann Arbor.
Now PhD student at Virginia Tech (Advisor: Jia-Bin Huang)

Advising: Ph.D. Committees

- Pratik Mukherjee, Virginia Tech (Advisor: Ryan Williams)
- Yazhe Hu, Virginia Tech (Advisor: Tomonari Furukawa)
- Xiaolong Li, Virginia Tech (Advisor: Lynn Abbott)
- Abdulaziz Abdullah Alorf, Virginia Tech (Advisor: Lynn Abbott)
- Shichao Chen, Virginia Tech (Advisor: Yizheng Zhu)
- Wei-Sheng (Jason) Lai, UC Merced (Advisor: Ming-Hsuan Yang)
- Hsin-Ying (James) Lee, UC Merced (Advisor: Ming-Hsuan Yang)
- Hung-Yu Tseng, UC Merced (Advisor: Ming-Hsuan Yang)
- Steve Jan, Virginia Tech (Advisor: Gang Wang)
- Qing Sun, Virginia Tech (Advisor: Dhruv Batra)

- Shuangfei Fan, Virginia Tech (Advisor: Bert Huang)
- Ahmed Ibrahim, Virginia Tech (Advisor: Lynn Abbott)
- Abdulaziz Alorf, Virginia Tech (Advisor: Lynn Abbott)

Advising: Master's Committees

- Moqi Zhang, Virginia Tech (Advisor: Yi Yang)
- Meghana Laxmidhar Gaopande, Virginia Tech (Advisor: Lynn Abbott)
- Ashish Budhiraja, Virginia Tech (Advisor: Pratap Tokekar)
- Akrit Mohapatra, Virginia Tech (Advisor: Dhruv Batra)
- Arijit Ray, Virginia Tech (Advisor: Devi Parikh)
- S. Pradeep, Virginia Tech, (Advisor: Lynn Abbott)
- Lauren Wong, Virginia Tech (Advisor: Alan Michaels)
- Reid Bixler, Virginia Tech (Advisor: Bert Huang)

IV. Service and Outreach

Editorial Boards and Reviewing Activities

Journal Editor:

- IET Computer Vision (2020-2022)
- Computer Graphics Forum (2021-2023)
- Transactions on Machine Learning Research (2022 – 2024)

Journal reviewer:

- International Journal of Computer Vision (IJCV)
- ACM Computing Surveys (CSUR)
- IEEE Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transactions on Image Processing (TIP)
- IEEE Transactions on Visualization and Computer Graphics (TVCG)
- Computer Vision and Image Understanding (CVIU)
- IEEE Transactions on Circuits and Systems for Video Technology (CSVT)
- IEEE Transactions on Multimedia (TMM)

- The Visual Computer (TVC)
- ACM Transactions on Intelligent Systems and Technology (ACM TIST)
- Image and Vision Computing Journal (IVC)
- Journal of Selected Topics in Signal Processing (JSTSP)

Conference reviewer:

- IEEE Conference on Computer Vision (ICCV 2015, 2017)
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2015 – 2018, 2021)
- European Conference on Computer Vision (ECCV 2016, 2018, 2020)
- British Machine Vision Conference (BMVC 2017 – 2018)
- SIGGRAPH Asia (SigAsia 2014 –)
- Eurographics (EG 2014 – 2015)
- IEEE Conference on Computational Photography (ICCP 2015)
- Neural Information Processing Systems (NeurIPS 2015, 2018, 2019)
- Asian Conference on Computer Vision (ACCV 2014)
- Winter Conference on Computer Vision (WACV 2014 – 2017)
- International Conference on Multimedia & Expo (ICME 2015)
- Visual Communication and Image Processing (VCIP 2012 – 2016)
- Conference on Graphics, Patterns and Images (SIBGRAPI 2014 – 2015)
- Pacific Graphics 2014 (PG 2014 – 2015)
- International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2014 – 2016)
- Eye Tracking and Research Applications (ETRA 2014, 2016)

Unpaid reviewing activities for agencies:

- Panel member, National Science Foundation (Robust Intelligence), 2018
- Panel member, National Science Foundation (SBIR/STTR), 2018, 2019
- Panel member, National Science Foundation (Secure and Trustworthy Cyberspace), 2017

Committees, Professional & Campus Service

Departmental Service

- Admission Committee, Computer Science at University of Maryland College Park, Fall 2022 – Spring 2023
- Undergraduate Curriculum Committee, Department of Electrical and Computer Engineering, Virginia Tech, Fall 2020, Spring 2021
- Area Recruiting Representative in Machine Perception, Department of Electrical and Computer Engineering, Virginia Tech, Fall 2020
- Faculty search committee, Machine Perception for Autonomy, Fall 2019
- Faculty search committee, Machine Perception for Autonomy, Fall 2018
- Faculty search committee, Machine Perception for Autonomy, Fall 2017

Other University Service

- Faculty Judge, Torgersen Research Excellence Award, Spring 2017
- Faculty participant, Faculty lunch, Student Transition Engineering Program (STEP), Fall 2017
- Faculty participant, Galipatia Slush Rush, Center for the Enhancement of Engineering Diversity, Fall 2017

Non-University Panels and Positions

SIGGRAPH Technical Program Committee

- SIGGRAPH 2023
- SIGGRAPH 2022
- SIGGRAPH Asia 2021
- SIGGRAPH Asia 2020

Area Chairs

- ICCV 2023: International Conference on Computer Vision
- ICML 2023: International Conference on Machine Learning
- AAAI 2023: Association for the Advancement of Artificial Intelligence
- CVPR 2023: IEEE/CVF Conference on Computer Vision and Pattern Recognition
- WACV 2023: Winter Conference on Computer Vision
- ICLR 2022: International Conference on Learning Representations
- ICML 2022: International Conference on Machine Learning
- NeurIPS 2022: Neural Information Processing Systems
- ECCV 2022: European Conference on Computer Vision
- BMVC 2022: British Conference on Machine Vision
- WACV 2022: Winter Conference on Computer Vision
- ICCV 2021: International Conference on Computer Vision
- NeuIPS 2021: Neural Information Processing Systems
- BMVC 2021: British Conference on Machine Vision
- BMVC 2020: British Conference on Machine Vision
- WACV 2020: Winter Conference on Computer Vision
- CVPR 2019: IEEE/CVF Conference on Computer Vision and Pattern Recognition
- ICCV 2019: International Conference on Computer Vision
- BMVC 2019: British Conference on Machine Vision
- WACV 2018: Winter Conference on Computer Vision
- MVA 2016: IAPR International Conference on Machine Vision Applications

Mentor

- CVPR 2022 Mentor at Student Social
- CVPR 2021 Mentor at Student Social
- CVPR 2021: LatinX in AI Mentoring Program
- ICCV 2021: Mentor at Student Social
- ICCV 2021: Doctoral Consortium
- SIGGRAPH Asia 2021: “A Conversation With ...”