

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

- Summer
2021- **Computational Photography group, Facebook Reality Labs, Seattle.**
Research Scientist, Manager: Michael F. Cohen
- 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

Articles in Refereed Journals

1. Badour AlBahar, Jingwan Lu, Jimei Yang, Zhixin 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)
2. 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
3. Xuan Luo, Jia-Bin Huang, Richard Szeliski, Kevin Matzen, Johannes Kopf.
Consistent Video Depth Estimation.
ACM Transactions on Graphics (TOG), 2020 (Proceedings of SIGGRAPH)
4. 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
5. 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
6. 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
7. 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

8. 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
9. Kai-Wen Hsiao, Jia-Bin Huang, and Hung-Kuo Chu.
Multi-view Wire Art.
ACM Transactions on Graphics (TOG), 2018 (*Proceedings of SIGGRAPH Asia*)
10. 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
11. 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
12. 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
13. 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
14. Jia-Bin Huang, Sing Bing Kang, Narendra Ahuja, and Johannes Kopf.
Temporally Coherent Completion of Dynamic Video.
ACM Transactions on Graphics (TOG), 2016 (*Proceedings of SIGGRAPH Asia*)
15. Jia-Bin Huang, Johannes Kopf, Narendra Ahuja, and Sing Bing Kang.
Image Completion using Planar Structure Guidance.
ACM Transactions on Graphic (TOG), 2014 (*Proceedings of SIGGRAPH*)
16. Jia-Bin Huang, Yu-cheng Tseng, Se-In Wu, and Sheng-Jyh Wang.
Information Preserving Color Transformation for Protanopia and Deutanopia.
IEEE Signal Processing Letters, 2017

Articles in Refereed Conferences

1. Chen Gao, Ayush Saraf, Johannes Kopf, and Jia-Bin Huang
Dynamic View Synthesis from Dynamic Monocular Video
Proceedings of International Conference on Computer Vision (ICCV), 2021
2. Yu-Lun Liu, Wei-Sheng Lai, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang
Hybrid Neural Fusion for Full-frame Video Stabilization
Proceedings of International Conference on Computer Vision (ICCV), 2021
3. Johannes Kopf, Xuejian Rong and Jia-Bin Huang
Robust Consistent Video Depth Estimation.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021
4. 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

5. 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
6. Chen Gao, Ayush Saraf, Jia-Bin Huang, and Johannes Kopf
Flow-edge Guided Video Completion.
European Conference on Computer Vision (ECCV), 2020
7. 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
8. 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
9. 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
10. Jinwoo Choi, Gaurav Sharma, Samuel Schulter, and Jia-Bin Huang
Shuffle and Attend: Video Domain Adaptation.
European Conference on Computer Vision (ECCV), 2020
11. 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
12. 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
13. 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.
14. 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
15. 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
16. Jheng-Wei Su, Hung-Kuo Chu, and Jia-Bin Huang.
Instance-aware Image Colorization.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020.
17. 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
18. 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

19. 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
20. 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
21. Badour AlBahar and Jia-Bin Huang.
Guided Image-to-Image Translation with Bi-Directional Feature Transformation.
IEEE International Conference on Computer Vision (ICCV), 2019.
22. 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
23. 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
24. 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
25. 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
26. Chen Gao, Yuliang Zou, and Jia-Bin Huang.
iCAN: Instance-Centric Attention Network for Human-Object Interaction Detection. *British Machine Vision Conference (BMVC), 2018*
27. 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
28. 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
29. 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
30. Yuan-Ting Hu, Jia-Bin Huang, and Alexander Schwing.
VideoMatch: Matching based Video Object Segmentation.
European Conference on Computer Vision (ECCV), 2018
31. 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

32. 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
33. 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)
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. 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
36. 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
37. Yuan-Ting Hu, Jia-Bin Huang, and Alex Schwing.
MaskRNN: Instance Level Video Object Segmentation.
Neural Information Processing Systems (NeurIPS), 2017
38. 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
39. 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
40. Yijun Li, Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang.
Deep Joint Image Filter.
European Conference on Computer Vision (ECCV), 2016
41. 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
42. 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
43. 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
44. 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

45. 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
46. 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
47. 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
48. 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)
49. Jia-Bin Huang, Johannes Kopf, Narendra Ahuja, and Sing Bing Kang.
Transformation Guided Image Completion.
International Conference on Computational Photograph (ICCP), 2013
50. Jia-Bin Huang and Narendra Ahuja.
Saliency Detection via Divergence Analysis: A Unified Perspective.
International Conference on Pattern Recognition (ICPR), 2012 (Best Paper Award)
51. 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
52. Jia-Bin Huang and Ming-Hsuan Yang.
Fast Sparse Representation with Prototypes.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2010
53. Jia-Bin Huang and Ming-Hsuan Yang.
Estimating Human Pose from Occluded Images.
Asian Conference on Computer Vision (ACCV), 2009
54. 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.

Tutorials, Talks, Abstracts, and Other Professional Papers Presented

Aug 2021	Graphics And Mixed Environment Seminar (Host: Jun-Yan Zhu)
July 2021	School of Computer Science, Tel Aviv University , <i>Computer Graphics Seminar</i> (Host: Daniel Cohen-Or)
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 , <i>Computer Science Colloquium</i> .
April 2021	Georgia Tech , <i>School of Interactive Computing Seminar</i> .
April 2021	University of Texas, Austin , <i>Electrical and Computer Engineering seminar</i> .
April 2021	Cornell University , <i>Computer Science Colloquium</i> .
March 2021	University of Michigan, Ann Arbor , <i>ECE Faculty Recruiting Seminar</i> .
March 2021	University of North Carolina Chapel Hill , <i>Computer Science Colloquium</i> .
Feb 2021	University of California, Merced , <i>EECS Department Seminar</i> .
Feb 2021	3M , <i>Non-Tenured Faculty Award Symposium</i> .
Feb 2021	University of Bristol , <i>Visual Information Laboratory Seminar</i> .
Jan 2021	University of Illinois, Urbana-Champaign , <i>Computer Vision seminar, external speaker series</i> .
Jan 2021	Massachusetts Institute of Technology , <i>3D Representations Reading Group</i> .
Dec 2020	Google , <i>Machine Perception Seminar</i>
Oct 2020	Georgia Tech , <i>Machine Learning Seminar</i> .

Oct 2020	Rice University , <i>Computer Science Colloquium.</i>
April 2020	University of Illinois, Urbana-Champaign , <i>Vision Lunch.</i>
April 2020	Nanyang Technological University, Singapore , <i>Invited talk.</i>
Jan 2020	National Taiwan University, Taiwan , <i>Department of Computer Science and Information Engineering Seminar.</i>
Jan 2020	Media Tek , <i>Invited talk</i>
Jan 2019	National Taiwan University, Taiwan , <i>Department of Computer Science and Information Engineering Seminar.</i>
Jan 2019	Appier , <i>Invited talk</i>
Jan 2018	National Taiwan University, Taiwan , <i>Department of Computer Science and Information Engineering Seminar.</i>
March 2016	Virginia Tech , <i>Department of Electrical and Computer Engineering</i>
March 2016	University of Minnesota, Twin Cities , <i>Computer Science Seminar</i>
March 2016	North Carolina State University , <i>ECE Seminar</i>
March 2016	Arizona State University , <i>School of Computing, Informatics, and Decision Systems Engineering</i>

Research Grants

2021-2022	Detecting Disinformation and Misinformation , <i>Co-PI, Virginia's Commonwealth Cyber Initiative</i> Award amount: 66K. Personal share: 30%
2021-2022	Intelligent Augmented Reality for the Future of Work , <i>Co-PI, Center for Human Computer Interaction</i> , Award amount: 33K. Personal share: 20%
2021-2024	CH: Semi-Automated Rehabilitation in the Home , <i>Co-PI, National Science Foundation Smart and Connected Health</i> , Award amount: \$1,100,000. Personal share: 8%.
2020-2022	Learning with Limited Supervision , <i>Sole-PI, 3M Non-tenured Faculty Award, 3M.</i> Award amount: \$45,000. Personal share: 100%
2020-2021	Reflection Removal from Structured Light Fields , <i>Sole-PI, Denso Corp.</i>

	Award amount: \$127,715. Personal share: 100%
2020-2021	Reducing Biases in Visual Recognition, <i>PI, 4-VA Collaborative Research.</i> Award amount: \$25,000. Personal share: 100% (with Vicente Roman at University of Virginia)
2020-2022	Rapid Predictive Analytical Model Deployment in Vehicles, <i>Co-PI, Ford .</i> Award amount: \$204,851. Personal share: 50% (with Brian Mayer)
2019-2022	CPS: Medium: Computation-Aware Autonomy for Timely and Resilient Multi-Agent Systems, <i>Co-PI, Cyber-Physical System (CPS), National Science Foundation.</i> 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, <i>Co-PI, Techniques, and Interventions program,</i> 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, <i>Co-PI, ICAT SEAD Grant, ICAT, Virginia Tech.</i> 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, <i>Sole-PI, Denso Corp.</i> Award amount: \$200,000. Personal share: 100%
2019-2020	Instance-level Video Object Segmentation in the Wild, <i>Co-PI, Global Outreach Award (GRO), Samsung.</i> Award amount: \$100,000. Personal share: 25% (with Alexander Schwing at UIUC)
2018-2019	Human-centric Activity Understanding with Relational Reasoning, <i>Sole-PI, Google Faculty Research Award, Google.</i> Award amount: \$53,375. Personal share: 100%
2018-2019	Instance-level Video Object Segmentation in the Wild <i>Co-PI, Global Outreach Award (GRO), Samsung</i> Award amount: \$98,945. Personal share: 50% (with Alexander Schwing at UIUC)
2018-2020	CRII: RI: Representation Learning and Adaptation using Unlabeled Videos, <i>Sole-PI, CISE Research Initiation Initiative Award, National Science Foundation.</i> 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

2021 **Adobe Research. \$17,000,** *Adobe.*

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 **PFP Cybersecurity. \$15,000,** *PFP 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 , <i>Visual Communications and Image Processing</i> .
Feb 2016	Best Talk Award , <i>Coordinated Science Laboratory Student Conference</i> , UIUC.
May 2015	Dissertation Completion Fellowship , <i>Graduate College</i> , UIUC.
May 2015	Cognitive Science / Artificial Intelligence Award , <i>Beckman Institute</i> , UIUC.
April 2015	Thomas and Margaret Huang Award for Graduate Research , <i>Beckman Institute</i> , UIUC.
April 2015	First place , <i>Team Space Design Competition</i> , NASA Jet Propulsion Laboratory.
Mar 2015	Conference Travel Award , <i>Graduate College</i> , UIUC.
July 2014	MOE Technologies Incubation Scholarship , <i>Ministry of Education</i> , Taiwan. Annual scholarship 42,000 USD for three years
Mar 2014	Best Long Paper Award , <i>ACM Symposium on Eye Tracking Research</i> , ETRA 2014. For our work on learning-based eye tracking
Mar 2014	Sundaram Seshu International Student Fellowship , <i>ECE</i> , UIUC. UIUC ECE departmental fellowship
Dec 2014	PURE Best Project Award x3 , <i>Promoting Undergraduate Research in Engineering</i> , UIUC. Michael Qiu (Fall 2014), Zelun Luo, Anarghya Mitra (Spring 2013), and Sakshi Srivastava (Fall 2012)
Dec 2012	Best Mentor of the Semester , <i>Promoting Undergraduate Research in Engineering</i> , UIUC.
Nov 2012	Best Student Paper Award , <i>International Conference on Pattern Recognition</i> , 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

- 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

- **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. (Expected graduation 2022)
- **Badour AlBahar**, *Ph.D. student*, Virginia Tech, **Kuwait University Scholarship**. (Expected graduation 2022)
- **Chen Gao**, *Ph.D. student*, Virginia Tech. (Expected graduation 2022)
- **Yiran Xu**, *Ph.D. student*, Virginia Tech. (Expected graduation 2024)
- **Yue Feng**, *Ph.D. student*, Virginia Tech. (Expected graduation 2025)

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 (Advisor: Animesh Garg)
- **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)

Journal reviewer:

- International Journal of Computer Vision (IJCV)
- ACM Computing Surveys (CSUR)
- ACM Transactions on Graphics (TOG)
- 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, 2022)
- 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

- 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 Asia, 2021
- SIGGRAPH Asia, 2020

Area Chairs

- AAAI Conference on Artificial Intelligence (AAAI 2022)
- Winter Conference on Applications of Computer Vision (WACV 2022)
- Neural Information Processing Systems (NeurIPS 2021)
- International Conference on Computer Vision (ICCV 2021)
- British Conference on Machine Vision (BMVC 2021)
- Association for the Advancement of Artificial Intelligence (AAAI 2021)
- British Conference on Machine Vision (BMVC 2020)
- International Conference on Computer Vision (ICCV 2019)
- Conference on Computer Vision and Pattern Recognition (CVPR 2019)
- British Conference on Machine Vision (BMVC 2019)
- Winter Conference on Computer Vision (MVA 2018)
- IAPR International Conference on Machine Vision Applications (MVA 2016)

Mentor

- LatinX in AI Mentoring Program at CVPR 2021
- CVPR 2021 Mentor at Student Social