Curriculum Vitae

Name

Jonathan Daniel Ventura

Educational Preparation

Postdoc in Computer Science, Graz University of Technology October 2012 – June 2014

Ph.D. in Computer Science, University of California, Santa Barbara March 2012

M.S. in Computer Science, University of California, Santa Barbara November 2010

B.S. in Computer Science, University of California, Santa Barbara June 2005

Employment History

Associate Professor, Department of Computer Science & Software Engineering
California Polytechnic State University, San Luis Obispo June 2022 – present

Visiting Professor, Department of Computer Science
University of Otago, New Zealand January 2023 – June 2023

Assistant Professor, Department of Computer Science & Software Engineering
California Polytechnic State University, San Luis Obispo September 2018 – June 2022

Assistant Professor, Department of Computer Science
University of Colorado Colorado Springs August 2014 – June 2018

Publications

In author lists, my name is in bold font, an asterisk indicates a graduate student researcher and two asterisks indicate an undergraduate student researcher.

Books and Book Chapters

1. **Jonathan Ventura** and Tobias Höllerer. Urban visual modeling and tracking. In *Fundamentals of Wearable Computers and Augmented Reality*, chapter 8, pages 174–194. CRC Press, Boca Raton, 2nd edition, 2015.

Peer-reviewed Journal Articles

1. **Jonathan Ventura**, Camille Pawlak*, Milo Honsberger**, Cameron Gonsalves**, Julian Rice*, Natalie L.R. Love, Skyler Han**, Viet Nguyen**, Keilana Sugano**, Jacqueline Doremus, G. Andrew Fricker, Jenn Yost, and Matt Ritter. Individual tree detection in large-scale urban environments using high-resolution multispectral imagery. *International Journal of Applied Earth Observation and Geoinformation*, 130:103848, 2024.

2. Lewis Baker*, **Jonathan Ventura**, Tobias Langlotz, Shazia Gul*, Steven Mills, and Stefanie Zollmann. Localization and tracking of stationary users for augmented reality. *The Visual Computer*, 40(1):227–244, 2024.

3. Krti Tallam*, Nam Nguyen**, **Jonathan Ventura**, Andrew Fricker, Sadie Calhoun, Jennifer O'Leary, Mauriça Fitzgibbons, Ian Robbins, and Ryan K Walter. Application of deep learning for classification of intertidal eelgrass from drone-acquired imagery. *Remote Sensing*, 15(9):2321, 2023.

4. Natalie L.R. Love, Viet Nguyen**, Camille Pawlak*, Andrew Pineda, Jeff L. Reimer, Jennifer M. Yost, G. Andrew Fricker, **Jonathan D. Ventura**, Jacqueline M. Doremus, Taylor Crow, and Matt K. Ritter. Diversity and structure in California's urban forest: What over six million data points tell us about one of the world's largest urban forests. *Urban Forestry & Urban Greening*, 74:127679, 2022.

5. Marios Galanis*, Krishna Rao*, Xinle Yao*, Yi-Lin Tsai*, **Jonathan Ventura**, and G Andrew Fricker. DamageMap: A post-wildfire damaged buildings classifier. *International Journal of Disaster Risk Reduction*, 2021.

6. Marc Moreno Lopez*, Joshua Frederick*, and **Jonathan Ventura**. Evaluation of MRI denoising methods using unsupervised learning. *Frontiers in Artificial Intelligence*, 4, 2021.

7. Guy M. Hagen, Justin Bendesky, Rosa Machado, Tram-Anh Nguyen**, Tanmay Kumar**, and **Jonathan Ventura**. Fluorescence microscopy datasets for training deep neural networks. *Gigascience*, 10(5), 2021.

8. Alisha Sharma, Ryan Nett*, and **Jonathan Ventura**. Unsupervised learning of depth and ego-motion from cylindrical panoramic video with applications for virtual reality. *International Journal of Semantic Computing*, 14(3):333–356, 2020.

9. Geoffrey A Fricker, **Jonathan D Ventura**, Jeffrey A Wolf, Malcolm P North, Frank W Davis, and Janet Franklin. A convolutional neural network classifier identifies tree species in mixed-conifer forest from hyperspectral imagery. *Remote Sensing*, 11(19):2326, 2019.

10. **Jonathan Ventura** and Tobias Höllerer. Structure and motion in urban environments using upright panoramas. *Virtual Reality*, 17(2), 2013.

Peer-reviewed Conference Proceedings

1. **Jonathan Ventura**, Zuzana Kukelova, Torsten Sattler, and Dániel Baráth. Absolute pose from one or two scaled and oriented features. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2024.

2. Shivam Asija*, Edward Du*, Nam Nguyen*, Stefanie Zollmann, and **Jonathan Ventura**. 3D Pano Inpainting: Building a VR environment from a single input panorama. In *2024 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, pages 1019–1020. IEEE, 2024.

3. **Jonathan Ventura**, Zuzana Kukelova, Torsten Sattler, and Dániel Baráth. P1AC: Revisiting absolute pose from a single affine correspondence. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, pages 19751–19761, 2023.

4. John Waidhofer**, Richa Gadgil**, Anthony Dickson*, Stefanie Zollmann, and **Jonathan Ventura**. PanoSynthVR: Toward light-weight 360-degree view synthesis from a single panoramic input. In *IEEE International Symposium on Mixed and Augmented Reality*, 2022.

5. Anthony Dickson*, Jeremey Shanks*, **Jonathan Ventura**, Alistair Knott, and Stefanie Zollmann. VRVideos: A flexible pipeline for virtual reality video creation. In *2022 IEEE International Conference on Artificial Intelligence and Virtual Reality (AIVR)*, pages 199–202. IEEE, 2022.

6. Paul Anderson, Kelly Bodwin, Alex Dekhtyar, Hunter Glanz, Foaad Khosmood, Lubomir Stanchev, Dennis L Sun, and **Jonathan Ventura**. Discussing the history of ideas in a data science seminar. In *Proceedings of the 54th ACM Technical Symposium on Computer Science Education V. 2*, pages 1328–1328, 2022.

7. Richa Gadgil**, Reesa John**, Stefanie Zollmann, and **Jonathan Ventura**. PanoSynthVR: View synthesis from a single input panorama with multi-cylinder images. In *ACM SIGGRAPH Posters*, 2021.

8. Wesley Khademi** and **Jonathan Ventura**. View synthesis in casually captured scenes using a cylindrical neural radiance field with exposure compensation. In *ACM SIGGRAPH Posters*, 2021.

9. Stefanie Zollmann, Anthony Dickson*, and **Jonathan Ventura**. CasualVRVideos: VR videos from casual stationary videos. In *26th ACM Symposium on Virtual Reality Software and Technology*, 2021.

10. Wesley Khademi**, Sonia Rao**, Clare Minnerath**, Guy Hagen, and **Jonathan Ventura**. Self-supervised poisson-gaussian denoising. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision*, pages 2131–2139, 2021.

11. Lewis Baker*, Steven Mills, Stefanie Zollmann, and **Jonathan Ventura**. CasualStereo: Casual capture of stereo panoramas with spherical structure-from-motion. In *2020 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, pages 782–790. IEEE, 2020.

12. Lewis Baker*, **Jonathan Ventura**, Stefanie Zollmann, Steven Mills, and Tobias Langlotz. SPLAT: Spherical localization and tracking in large spaces. In *2020 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, pages 809–817. IEEE, 2020.

13. Akshay Dhamija*, Manuel Gunther, **Jonathan Ventura**, and Terrance Boult. The overlooked elephant of object detection: Open set. In *The IEEE Winter Conference on Applications of Computer Vision*, pages 1021–1030, 2020.

14. Khaled Alyousefi* and **Jonathan Ventura**. Multi-camera motion estimation with affine correspondences. In *International Conference on Image Analysis and Recognition*, pages 417–431. Springer, 2020.

15. Khaled Alyousefi* and **Jonathan Ventura**. Ego-motion estimation using affine correspondences. In *17th International Conference on Information Technology–New Generations (ITNG 2020)*, pages 531–537. Springer, 2020.

16. Lee Sharma** and **Jonathan Ventura**. Unsupervised learning of depth and ego-motion from cylindrical panoramic video. In *IEEE Conference on Artificial Intelligence & Virtual Reality (AIVR)*, 2019.

17. Lewis Baker*, Stefanie Zollmann, and **Jonathan Ventura**. Spherical structure-from-motion for casual capture of stereo panoramas. In *IEEE Virtual Reality (VR)*, Osaka, Japan, 2019.

18. Yousef Alsahafi*, Daniel Lemmond**, **Jonathan Ventura**, and Terrance E. Boult. CarVideos: A novel dataset for fine-grained car classification in videos. In *International Conference on Information Technology: New Generations*, 2019.

19. Diptodip Deb** and **Jonathan Ventura**. An aggregated multicolumn dilated convolution network for perspective-free counting. In *CVPR Workshop on Visual Understanding of Humans in Crowd Scene*, Salt Lake City, UT, 2018.

20. Tobias Langlotz, Elias Tappeiner*, Stefanie Zollmann, **Jonathan Ventura**, and Holger Regenbrecht. Urban pointing: Browsing situated media using accurate pointing interfaces. In *ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems*, Montreal, Canada, 2018.

21. Patrick Skinner*, **Jonathan Ventura**, and Stefanie Zollmann. POSTER: indirect augmented reality browser for GIS data. In *Adjunct Proceedings of the IEEE International Symposium for Mixed and Augmented Reality 2018*, Munich, Germany, 2018.

22. Chloe Bradley*, Terrance E. Boult, and **Jonathan Ventura**. Cross-modal facial attribute recognition with geometric features. *International Workshop on Heterogeneous Face Recognition (HFR) co-located with 12th IEEE Conference on Automatic Face & Gesture Recognition*, 2017.

23. Derek Prijatelj**, **Jonathan Ventura**, and Jugal Kalita. Neural networks for semantic textual similarity. 2017.

24. **Jonathan Ventura**, Steve Cruz**, and Terrance E. Boult. Improving teaching and learning through video summaries of student engagement. In *Workshop on Computational Models for Learning Systems and Educational Assessment (CMLA 2016)*, Las Vegas, NV, 2016.

25. Stefanie Zollmann, Christian Poglitsch*, and **Jonathan Ventura**. VISGIS: Dynamic situated visualization for geographic information systems. *Image and Vision Computing New Zealand*, 2016.

26. **Jonathan Ventura**. Structure from motion on a sphere. In *European Conference on Computer Vision (ECCV)*, Amsterdam, the Netherlands, 2016.

27. **Jonathan Ventura**, Clemens Arth, and Vincent Lepetit. An efficient minimal solution for multi-camera motion. In *International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

28. Clemens Arth, Christian Pirchheim*, **Jonathan Ventura**, Dieter Schmalstieg, and Vincent Lepetit. Instant outdoor localization and SLAM initialization from 2.5D maps. In *International Symposium on Mixed and Augmented Reality (ISMAR)*, Fukuoka, Japan, 2015.

29. Christian Poglitsch*, Clemens Arth, Dieter Schmalstieg, and **Jonathan Ventura**. [POSTER] A particle filter approach to outdoor localization using image-based rendering. In *International Symposium on Mixed and Augmented Reality (ISMAR)*, 2015.

30. Lukas Gruber*, **Jonathan Ventura**, and Dieter Schmalstieg. Image-space illumination for augmented reality in dynamic environments. In *IEEE Virtual Reality*, Arles, France, 2015.

31. **Jonathan Ventura**, Clemens Arth, Gerhard Reitmayr, and Dieter Schmalstieg. A minimal solution to the generalized pose-and-scale problem. In *Computer Vision and Pattern Recognition (CVPR)*, Columbus, OH, USA, 2014.

32. **Jonathan Ventura**, Clemens Arth, Gerhard Reitmayr, and Dieter Schmalstieg. Global localization from monocular SLAM on a mobile phone. In *IEEE Virtual Reality*, Minneapolis, MN, USA, 2014.

33. **Jonathan Ventura**, Clemens Arth, and Vincent Lepetit. Approximated relative pose solvers for efficient camera motion estimation. In *ECCV 2014 Workshop on Computer Vision in Vehicle Technology*, 2014.

34. Steffen Gauglitz, Chris Sweeney, **Jonathan Ventura**, Matthew Turk, and Tobias Höllerer. Model estimation and selection towards unconstrained real-time tracking and mapping. *IEEE Transactions on Visualization and Computer Graphics*, 2013.

35. Clemens Arth, **Jonathan Ventura**, and Dieter Schmalstieg. Geospatial management and utilization of large-scale urban visual reconstructions. In *Computing for Geospatial Research & Application (COM.Geo), 4th International Conference on*, San Jose, CA, USA, 2013.

36. Steffen Gauglitz, Chris Sweeney, **Jonathan Ventura**, Matthew Turk, and Tobias Hollerer. Live tracking and mapping from both general and rotation-only camera motion. In *Mixed and Augmented Reality (ISMAR), 2012 IEEE International Symposium on*, Atlanta, GA, USA, 2012.

37. **Jonathan Ventura** and Tobias Hollerer. Wide-area scene mapping for mobile visual tracking. In *Mixed and Augmented Reality (ISMAR), 2012 IEEE International Symposium on*, Atlanta, GA, USA, 2012.

38. **Jonathan Ventura** and Tobias Hollerer. Fast and scalable keypoint recognition and image retrieval using binary codes. In *Applications of Computer Vision (WACV), 2011 IEEE Workshop on*, Kona, HI, USA, 2011.

39. **Jonathan Ventura** and Tobias Hollerer. Outdoor mobile localization from panoramic imagery. In *Mixed and Augmented Reality (ISMAR), 2011 10th IEEE International Symposium on*, Basel, Switzerland, 2011.

40. Lukas Gruber*, Steffen Gauglitz*, **Jonathan Ventura**, Stefanie Zollmann*, Manuel Huber*, Michael Schlegel*, Gudrun Klinker, Dieter Schmalstieg, and Tobias Hollerer. The city of sights: Design, construction, and measurement of an augmented reality stage set. In *Mixed and Augmented Reality (ISMAR), 2010 9th IEEE International Symposium on*, Seoul, South Korea, 2010.

41. **Jonathan Ventura** and Tobias Höllerer. Real-time planar world modeling for augmented reality. In *IEEE ISMAR Workshop on Augmented Reality Super Models*, Seoul, South Korea, 2010.

42. **Jonathan Ventura** and Tobias Hollerer. Online environment model estimation for augmented reality. In *Mixed and Augmented Reality, 2009. ISMAR 2009. 8th IEEE International Symposium on*, Orlando, FL, USA, 2009.

43. **Jonathan Ventura**, Stephen DiVerdi, and Tobias Höllerer. A sketch-based interface for photo pop-up. In *Proceedings of the 6th Eurographics Symposium on Sketch-Based Interfaces and Modeling*, New Orleans, LA, USA, 2009.

44. **Jonathan Ventura**, Marcus Jang, Tyler Crain, Tobias Höllerer, and Doug Bowman. Evaluating the effects of tracker reliability and field of view on a target following task in augmented reality. In *Proceedings of the 16th ACM Symposium on Virtual Reality Software and Technology*, Kyoto, Japan, 2009.

45. Cha Lee, **Jonathan Ventura**, Chris Coffin, Sehwan Kim, and Tobias Höllerer. “Anywhere access” with annotated environment maps. In *IEEE ISMAR Workshop on AR 2.0: Social Augmented Reality*, Orlando, FL, USA, 2009.

46. Lukas Gruber, **Jonathan Ventura**, Steffen Gauglitz, Stefanie Zollmann, Dieter Schmalstieg, and Tobias Höllerer. Sightlining: Designing an augmented reality stage set. In *WARM 2010: Winter Augmented Reality Meeting*, Graz, Austria, 2009.

47. Jason Wither, Chris Coffin, **Jonathan Ventura**, and Tobias Hollerer. Fast annotation and modeling with a single-point laser range finder. In *Proceedings of the 7th IEEE/ACM International Symposium on Mixed and Augmented Reality*, Cambridge, UK, 2008.

48. **Jonathan Ventura** and Tobias Höllerer. Depth compositing for augmented reality. In *ACM SIGGRAPH 2008 posters*, Los Angeles, CA, USA, 2008.

49. Alex Villacorta, Karl Grossner, **Jonathan Ventura**, Anne-Marie Hansen, Emily Moxley, Joriz de Guzman, and Matt Peterson. Spheres of influence. ACM SIGGRAPH Art Gallery: Global Eyes, 2007.

Non-peer-reviewed Publications

1. Naiara Pinto, Richard Chen, Adriano Venturieri, Walter Alarcon, Naikoa Aguilar-Amuchastegui, Savannah Cooley*, Lyndon Estes, Geoffrey Fricker, **Jonathan Ventura**, Andrea Coelho, et al. Towards mapping perennial crops and agroforestry systems with synthetic aperture radar: Case studies in para, brazil and ucayali, peru. In *AGU Fall Meeting Abstracts*, volume 2021, pages GC44A–08, 2021.

2. Marc Moreno López* and **Jonathan Ventura**. Dilated convolutions for brain tumor segmentation in MRI scans. *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) Brain Lesion (BrainLes) workshop*, 2017.

3. Steffen Gauglitz, Christopher Michael Sweeney, **Jonathan Ventura**, Matthew Alan Turk, and Hollerer Tobias. Environment mapping with automatic motion model selection, November 2016. US Patent US9495761 B2.

4. Christian Pirchheim*, **Jonathan Ventura**, Dieter Schmalstieg, Clemens Arth, and Vincent Lepetit. Augmented reality lighting with dynamic geometry, June 2015. US Patent US 20150262412 A1.

5. Lukas Gruber, Dieter Schmalstieg, and **Jonathan Ventura**. Zero-baseline 3d map initialization, January 2015. US Patent US 20150371440 A1.

6. Stephen J. Diverdi and **Jonathan Ventura**. Generating a depth map based on a single image, May 23 2013. US Patent 20,130,127,823.

Funded External Grants

1. Stewart Wilson, PI, **Jonathan Ventura**, Co-PI, G. Andrew Fricker, Co-PI, Aakash Ahamed, Co-PI, O'Geen, Anthony, Co-PI. "Using Artificial Intelligence to Map Soil Burn Severity: Decision Support Tools for Postfire Assessment." 7/1/2024 – 6/30/2028. California Department of Forestry and Fire Protection, $749,975.00.

2. Stewart Wilson, PI, **Jonathan Ventura**, Co-PI, G. Andrew Fricker, Co-PI. Decision support tools for postfire assessment of soil burn severity. 9/2023 – 6/2024. Agricultural Research Institute, $40,000.00.

3. Stewart Wilson, PI, **Jonathan Ventura**, Co-PI, G. Andrew Fricker, Co-PI. Decision support tools for postfire assessment of soil burn severity. 9/2023 – 6/2024. McIntire-Stennis Forest Research Grant, $30,000.00.

4. G. Andrew Fricker, PI, and **Jonathan Ventura**, Co-PI. 1/2022–12/2024. "Unlocking the Power of Active Remote Sensing for Ecosystem Services Modeling in the Amazons Forest Agriculture Interface." NASA Jet Propulsion Laboratory / California Institute of Technology, $82,000.

5. Matt Ritter, PI, G. Andrew Fricker Co-PI, **Jonathan Ventura**, Co-PI, Jeff Reimer, Co-PI, and Alex Dekhtyar, Co-PI. Assessing Urban Forestry Programs. 11/2022 - 09/2024. California Department of Forestry and Fire Protection via USDA Forest Service, $662,230.

6. **Jonathan Ventura**, PI. "CAREER: RUI: CasualVR: Casual Capture of Dynamic Virtual Reality Environments." National Science Foundation, 7/1/2022 – 6/3/2027. $425,786.00.

7. Matt Ritter, PI, Jenn Yost, Co-PI, Jeff Riemer, Co-PI, Natalie Love, Co-PI, G. Andrew Fricker, Co-PI, **Jonathan Ventura**, Co-PI, and Jacqueline Doremus, Co-PI. "California Urban Forestry Program Phase 2." 3/20/2021 – 12/30/2021, California Department of Forestry and Fire Protection, $100,000.

8. G. Andrew Fricker, PI, and **Jonathan Ventura**, Co-PI. 1/2020–12/2022. "Unlocking the Power of Active Remote Sensing for Ecosystem Services Modeling in the Amazons Forest Agriculture Interface." NASA Jet Propulsion Laboratory / California Institute of Technology, $36,000.

9. **Jonathan Ventura**, PI, Hunter Glanz, Co-PI, Dennis L. Sun, Co-PI, Foaad Khosmood, Co-PI, and Alexander Dekhtyar, Co-PI. "HDR DSC: Collaborative Research: Central Coast Data Science Partnership: Training a New Generation of Data Scientists." 1/1/2020 – 12/31/2022. National Science Foundation, $243,638.00.

10. Matt Ritter, PI, Jenn Yost, Co-PI, Jeff Riemer, Co-PI, Natalie Love, Co-PI, G. Andrew Fricker, Co-PI, **Jonathan Ventura**, Co-PI, and Jacqueline Doremus, Co-PI. "California Urban Forest Inventory Phase 1." 10/2/2019 – 12/30/2020. California Department of Forestry and Fire Protection.

11. Bruce E. DeBruhl, PI, Alexander Dekhtyar, Co-PI, Aaron Keen, Co-PI, Zoë Wood, Co-PI, and **Jonathan Ventura**, Co-PI. "CUE Ethics: Collaborative Research: CS4All: An Inclusive and In-Depth Computing Curriculum for Non-Majors." 10/1/2019 – 9/30/2022. National Science Foundation, $174,975.00

12. **Jonathan Ventura**, PI. "Imaging Live Cells with Super-Resolution Microscopy." 9/13/2018 – 6/30/2021. University of Colorado Colorado Springs via National Institute of General Medical Sciences (Primary) and National Institute of Biomedical Imaging and Bioengineering, $62,793.00.

Awards and Honors

NSF CAREER Award, April 2022.

Best Conference Paper Honorable Mention (with L. Baker, S. Mills, and S. Zollmann), *IEEE Virtual Reality & 3D User Interfaces (VR '20)*, Atlanta, GA, March 2020.

Best Paper Award (with A. Sharma), *IEEE Artificial Intelligence & Virtual Reality (AIVR '19)*, San Diego, CA, December 2019.

UCCS Engineering and Applied Science Researcher of the Year, 2016.

Best Paper Award (with C. Arth, C. Pirchheim, D. Schmalstieg, and V. Lepetit), *IEEE International Symposium on Mixed and Augmented Reality (ISMAR '15)*, Fukuoka, Japan, October 2015.

Best Paper Award (with S. Gauglitz, C. Sweeney, M. Turk, and T. Höllerer), *IEEE International Symposium on Mixed and Augmented Reality (ISMAR '12)*, Atlanta, GA, November 2012.

Semi-finalist, ACM Student Research Competition, 2008.

Adobe Best Poster Award, UCSB Graduate Student Workshop, 2008.

NSF Integrative Graduate Education and Research Traineeship (IGERT), 2006-2008.

Community and Professional Service Contributions

Program Chair

IEEE International Symposium on Mixed and Augmented Reality (ISMAR), 2020-21.

IEEE Artificial Intelligence & Virtual Reality (AIVR) Conference Posters & Works-in-Progress track, 2021.

IEEE Artificial Intelligence & Virtual Reality (AIVR) Conference, 2019-20.

ACM Multimedia Systems Conference: Special Session on Augmented Reality, 2015-16.

IEEE AVSS Workshop on Surveillance for Location-aware Data Protection, 2016.

Program Committee

ACM Symposium on Virtual Reality Software & Technology, 2015-17.

IEEE Virtual Reality, 2015-16.

IEEE International Symposium on Mixed & Augmented Reality, 2012-14, 2018.

Tutorials and Workshops Organized

Co-chair, Doctoral Consortium, IEEE Virtual Reality 2022-2023 and 2025.

Co-organizer, tutorial on “Understanding Outdoor Augmented Reality” at ACM SIGGRAPH 2020.

IEEE ISMAR Workshop on Tracking Methods and Applications, 2012-14.

Journal Special Issues

Topic Editor, Capturing and Sharing the Real World in Virtual and Augmented Reality, Frontiers in Virtual Reality journal.

Reviewer

AAAI Conference on Artificial Intelligence

Asian Conference on Computer Vision

Elsevier Computers & Graphics

Elsevier Computer Vision and Image Understanding

Elsevier Image and Vision Computing

Elsevier International Journal of Human-Computer Studies

Elsevier Multimedia Systems Journal

Eurographics Conference

European Conference on Computer Vision

International Conference on Computer Vision

IEEE Computer Vision and Pattern Recognition

IEEE International Conference on 3D Vision

IEEE International Symposium on Mixed & Augmented Reality

IEEE International Symposium on Wearable Computers

IEEE Symposium on 3D User Interfaces

IEEE Transactions on Visualization and Computer Graphics

IEEE Virtual Reality

Laval Virtual Reality International Conference

Springer Virtual Reality

Springer Journal of Mathematical Imaging

Grant Proposal Review

NSF Division of Information and Intelligent Systems Review Panel, February 2025

NSF Division of Biological Infrastructure Review Panel, December 2024

NSF Division of Research on Learning Review Panel, October 2022

NSF Division of Information and Intelligent Systems Review Panel, March 2018

Professional Memberships and Registrations

Member, Institute for Electrical and Electronics Engineers (IEEE) Computer Society.

Member, Association for Computing Machinery (ACM).

Graduate Students

1. Nam Nguyen, M.S. in Computer Science, Cal Poly, June 2024. Thesis title: “Instant HDR-NeRF: Fast Learning Of High Dynamic Range View Synthesis With Unknown Exposure Settings.”

2. Daniel Levin, M.S. in Computer Science, Cal Poly, June 2024. Thesis title: “Point Cloud Initialization Techniques For Gaussian Splatting.”

3. Ryan Maier, M.S. in Computer Science, Cal Poly, June 2024. Thesis title: “Generative Data Augmentation: Using DCGAN To Expand Training Datasets For Chest X-Ray Pneumonia Detection.”

4. Daniel Tisdale, M.S. in Computer Science, Cal Poly, June 2024. Thesis title: “Accessible Real-time Eye-Gaze Tracking For Neurocognitive Health Assessments, A Multimodal Web-based Approach.”
5. Shivam Asija, M.S. in Computer Science, Cal Poly, March, 2024. Thesis title: “3D Pano Inpainting: Scene Construction Using A Single Input Panorama.”
6. Eric A. Inman, M.S. in Computer Science, Cal Poly, March, 2023. Thesis title: “PSF Sampling in Fluorescence Image Deconvolution.”
7. Adley Wong, M.S. in Computer Science, Cal Poly, December 2022. Thesis title: “Panodepth Panoramic Monocular Depth Perception Model and Framework.”
8. Julian Rice, M.S. in Computer Science, Cal Poly, August 2022. Thesis title: “Deep Learning for Detecting Trees in the Urban Environment from LIDAR.”
9. Sean Nesbit, M.S. in Computer Science, Cal Poly, June 2022. Thesis title: “Wildfire Risk Assessment Using Convolutional Neural Networks And MODIS Climate Data.”
10. Anurag Uppuluri, M.S. in Computer Science, Cal Poly, December 2021. Thesis title: “Adapting Single-View View Synthesis with Multiplane Images for 3D Video Chat.”
11. Brandon S. Campanella, M.S. in Computer Science, Cal Poly, December 2021. Thesis title: “MAP-GAN: Unsupervised Learning of Inverse Problems.”
12. Ty Farris, M.S. in Computer Science, Cal Poly, Summer 2021. Thesis title: “Take the Lead: Toward a Virtual Video Dance Partner.”
13. Marc Moreno Lopez, Ph.D. in Computer Science, University of Colorado Colorado Springs, 2021. Thesis title: “Evaluating the Interference of Noise when Performing MRI Segmentation.”
14. Brian Ishii, M.S. in Computer Science, Cal Poly, Spring 2021. Thesis title: “Using Pitch Tipping for Baseball Pitch Prediction.”
15. Ryan Nett, Cal Poly, M.S. in Computer Science, Fall 2020. Thesis title: “Dataset and Evaluation of Self-Supervised Learning for Panoramic Depth Estimation.”
16. Khaled Alyousefi, Ph.D. in Computer Science, University of Colorado Colorado Springs, 2020. Thesis title: “Toward Accurate Motion Estimation with Affine Correspondences.”
17. Yousef Alsahafi, Ph.D. in Computer Science, University of Colorado Colorado Springs, 2020. Thesis title: “Robust Fine-Grained Object Classification in Videos Domain.”
18. Jordi Nonell Pare, M.S. in Computer Science, University of Colorado Colorado Springs, 2018. Thesis title: “Hidden Variable Resultant Approach for Classical Computer Vision Problems.”
19. Alberto Olmo Hernández, M.S. in Computer Science, University of Colorado Colorado Springs, 2017. Thesis title: “Autoregressive Density Estimation in Latent Spaces.”

20. Natalia Valdivieso Tamayo, M.S. in Computer Science, University of Colorado Colorado Springs, 2017. Thesis title: “Neural Networks for Human Cell Detection and Counting.”
21. Chloe Bradley, M.S. in Computer Science, University of Colorado Colorado Springs, 2016. Thesis title: “Determining Facial Attributes From Geometric Features.”
22. Gauri Kulkarni, M.S. in Computer Science, University of Colorado Colorado Springs, 2016. Thesis title: “Learning Indoor Localization using Radio Received Signal Strength.”