

# Sanjeev J. Koppal

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## EXPERIENCE AND EDUCATION

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<b>Associate Professor (IEEE and Optica Senior Member)</b> <i>University of Florida, Electrical and Computer Engineering</i> Director of the Florida Optics and Computational Sensor (FOCUS) Lab	2021-present
<b>Amazon Scholar</b> <i>Amazon Robotics</i>	2022-present
<b>Assistant Professor</b> <i>University of Florida, Electrical and Computer Engineering</i>	2014-2021
<b>Member of Technical Staff</b> <i>Texas Instruments Imaging R&amp;D Group</i>	2012-2014
<b>Post-doctoral Research Associate</b> <i>Harvard University</i> Mentor: Prof. Todd Zickler	2009-2012
<b>Graduate Research Assistant</b> <i>Robotics Institute, Carnegie Mellon University</i> <i>Ph.D. Robotics Aug 2009</i> Advisor: Prof. Srinivasa Narasimhan	2003-2009
<b>Undergraduate Research Assistant</b> <i>University of Southern California</i> <i>B.S. Computer Science May 2003</i> Mentor: Prof. Gaurav Sukhatme	1999-2003

## AWARDS

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UF ECE Department Teaching Award (2024)  
Linda and Kent Fuchs Faculty Fellow (2023-present)  
UF Term Professorship (2021-24)  
ONR Summer Faculty Fellow <sup>1</sup> (2021)  
NSF CAREER Award (2020)  
Best Paper Award Finalist (CVPR 2019)  
Best Student Paper Award (NEMS 2018)  
Best Student Paper Award (ECCV 2016)  
Outstanding Reviewer Award (ECCV 2016)  
USC Computer Science Award for Outstanding Achievement (2003)  
USC Trustee Scholarship (full tuition) (1999-2003)  
USC Undergraduate Engineering Research Award (1999-2003)

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<sup>1</sup>Cancelled due to COVID-19

## **JOURNALS**

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**J26** Design of an Adaptive Lightweight LiDAR to Decouple Robot-Camera Geometry  
IEEE Transactions on Robotics, 2024

Yuyang Chen, Dingkang Wang, Lenworth Thomas, Karthik Dantu, **S. J. Koppal**

**J25** HyperPRI: A dataset of hyperspectral images for underground plant root study  
Computers and Electronics in Agriculture, 2024

Spencer J. Chang, Ritesh Chowdhry, Yangyang Song, T. Mejia, A. Hampton, Shelby Kucharski, T.M. Sazzad, Y. Zhang, **S. J. Koppal**, Chris H. Wilson, Stefan Gerber, Barry Tillman, Marcio F.R. Resende, William M. Hammond, Alina Zare

**J24** Hyperspectral Signals in the Soil: Plant-soil Hydraulic Connection and Disequilibrium as Mechanisms of Drought Tolerance and Rapid Recovery

Plant, Cell and Environment, 2024

Yangyang Song, Gerard Sapes, Spencer Chang, Ritesh Chowdhry, Tomas Mejia, Anna Hampton, Shelby Kucharski, Shahiar Sazzad TM; Yuxuan Zhang; Barry L. Tillman, Márcio Resende F R, **S. J. Koppal** , Chris Wilson, Stefan Gerber, Alina Zare, William Hammond

**J23** Event-based Dual Photography for Transparent Scene Reconstruction

Optics Letters 2023

Xiaomeng Liu, Joshua D. Rego, Suren Jayasuriya, **S. J. Koppal**

**J22** Dense Lissajous Sampling and Interpolation for Dynamic Light-Transport  
Optics Express 2021

X. Liu, K. Henderson, J. Rego, S. Jayasuriya and **S. J. Koppal**

**J21** A Miniature LiDAR with a Detached MEMS Scanner for Micro-robotics

IEEE Sensors Journal 2021

D. Wang, H. Xie, L. Thomas and **S. J. Koppal**

**J20** Fast Foveating Cameras for Dense Adaptive Resolution

IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2021

B. Tilmon, E. Jain, S. Ferrari and **S. J. Koppal**

**J19** Adaptive Fovea for Scanning Depth Sensors

International Journal of Robotics Research, 2020

Z. Tasneem, C. Adhivarahan, D. Wang, H. Xie, K. Dantu and **S. J. Koppal**

**J18** Design and Calibration of a Fast Flying-Dot Projector  
for Dynamic Light Transport Acquisition

Transactions on Computational Imaging, 2020

K. Henderson, X. Liu, J. Folden, B. Tilmon, S. Jayasuriya and **S. J. Koppal**

**J17** Proximity-based Sensor Fusion of Depth Cameras and Isotropic Rad-detectors

Transactions on Nuclear Science, 2020

K. Henderson, X. Liu, K. Stadnakia, A. Martin, A. Enqvist and **S. J. Koppal**

**J16** A low-voltage, low-current, digital-driven MEMS mirror for low-power LiDAR  
IEEE Sensors Letters, 2020

D. Wang, L. Thomas, **S. J. Koppal**, Y. Ding and H. Xie

- J15** A Monolithic Forward-View MEMS Laser Scanner With Decoupled Raster Scanning and Enlarged Scanning Angle for Micro LiDAR Applications  
Journal of Microelectromechanical Systems, 2020  
D. Wang, **S. J. Koppal** and H. Xie
- J14** The Security-Utility Trade-off for Iris Authentication and Eye Animation for Social Virtual Avatars  
IEEE VR 2020 (in the proceedings of TVCG 2020)  
B. John, S. Joerg, **S. J. Koppal** and E. Jain
- J13** A Silicon Optical Bench with Vertically-oriented Micromirrors for Active Beam Steering  
Sensors and Actuators A: Physical, 2019  
D Wang, C Watkins, **S. J. Koppal** and H Xie
- J12** Data Fusion for a Vision-Aided Radiological Detection System: Calibration Algorithm Performance  
Nuclear Instruments and Methods in Physics A, 2018  
K. Stadnikia, K. Henderson, A. Martin, P. Riley, **S. J. Koppal** and Andreas Enqvist
- J11** Focal Flow: Velocity and Depth from Differential Defocus through Motion  
International Journal on Computer Vision (IJCV), 2017  
E. Alexander, Q. Guo, **S. J. Koppal**, S.J. Gortler, and T. Zickler
- J10** Leveraging gaze data for segmentation and effects on comics  
Transactions on Multimedia Computing (TOMM), 2017  
I. Thirunarayanan, K. Khetarpal, **S. J. Koppal**, O. LeMeur, J. Shea and E. Jain
- J09** Pre-capture privacy for small vision sensors  
Transactions on Pattern Analysis and Machine Intelligence (PAMI) 2016  
F. Pittaluga and **S. J. Koppal**
- J08** A survey on computational photography in the small  
IEEE Signal Processing Magazine, 2016  
**S. J. Koppal**
- J07** Wide-angle structured light with a scanning MEMS mirror in liquid  
Optics Express, 2016  
X. Zhang, **S. J. Koppal**, R. Zhang, L. Zhou, E. Butler and H. Xie
- J06** Beyond perspective dual photography with illumination masks  
Transactions on Image Processing (TIP), 2015  
**S. J. Koppal** and S. G. Narasimhan
- J05** Generalized assorted camera arrays: robust cross-channel registration and applic.  
Transactions on Image Processing (TIP), 2015  
J. Holloway and K. Mitra and **S. J. Koppal** and A. Veeraraghavan

**J04** Towards wide-angle micro vision sensors

Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2013

**S. J. Koppal**, I. Gkioulekas, T. Young, H. Park, K. Crozier, G. Barrows and T. Zickler

**J03** Exploiting DLP illumination dithering for reconstruction and photography of high-speed scenes

International Journal on Computer Vision (IJCV), 2011.

**S. J. Koppal**, S. Yamazaki and S. G. Narasimhan

**J02** A viewer-centric editor for stereoscopic cinema

IEEE Computer Graphics and Applications (CG&A), 2011.

**S. J. Koppal**, L. Zitnick, M. Cohen, S. Kang, B. Ressler and A. Colburn

**J01** Appearance derivatives for iso-normal clustering of scenes

Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2008.

**S. J. Koppal** and S. G. Narasimhan

## **CONFERENCES**

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**C37** FoveaCam++: Systems-Level Advances for Long Range Multi-Object High-Resolution Tracking

IROS 2024

Yuxuan Zhang and **S. J. Koppal**

**C36** Confocal Bistatic LIDAR in Scattering Media

SPIE Defense + Commercial Sensing 2024

J. Folden, D. Alley, D. Illig, L. Mullen and **S. J. Koppal**

**C35** Demystifying Edge Cases in Advanced IC Packaging Inspection through Novel Explainable AI Metrics

ECTC 2024

S. Ghosh, A. Roy, M. Al Hasan Md, P. Craig, N. Varshney, **S. J. Koppal** and N. Asadizanjani

**C34** Schrödinger's Camera: First Steps Towards a Quantum-Based Privacy Preserving Camera Hannah Kirkland and **S. J. Koppal**

arXiv 2023 — TCV CVPRW 2023 — WiCV CVPRW 2023 (extended abstract)

**C33** Energy-Efficient Adaptive 3D Sensing

Brevin Tilmon, Zhanghao Sun, **S. J. Koppal**, Yicheng Wu, Georgios Evangelidis, Ramzi Zahreddine, Guru Krishnan, Sizhuo Ma and Jian Wang

CVPR 2023

**C32** Give me some room please! Personal space bubbles for safety and performance

Karina LaRubbio, Ethan Wilson, **S. J. Koppal**, Sophie Jörg and Eakta Jain

IEEE VR Conference 2023

**C31** Optical MEMS enable next generation solutions for robot vision and human-robot interaction

Daniel Lovell, Veljko Milanovic, Abhishek Kasturi, Frank Hu, Karan Soni, Derek Ho, Bryan H. Atwood, Lj Ristic, Xiaomeng Liu, and **S. J. Koppal**  
SPIE OPTO 2022

**C30** SaccadeCam: Adaptive Visual Attention for Monocular Depth Sensing

International Conference on Computer Vision (ICCV) 2021

B. Tilmon and **S. J. Koppal**

**C29** Design and Fabrication of a Forward View Scanner on SIOB with Latch Structure for Improved Vertical Orientation

IEEE MEMS 2021

D. Wang, D. Zheng, **S. J. Koppal**, B. Sun and H. Xie

**C28** Towards a MEMS-based Adaptive LIDAR

3DV 2020

F. Pittaluga, Z. Tasneem, J. Folden, B. Tilmon, A. Chakrabarti and **S. J. Koppal**

**C27** FoveaCam: A MEMS Mirror-Enabled Foveating Camera

ICCP 2020

B. Tilmon, E. Jain, S. Ferrari, and **S. J. Koppal**

**C26** Revealing Scenes by Inverting Structure from Motion Reconstructions

CVPR 2019 *Best Paper Finalist*

F. Pittaluga, **S. J. Koppal**, S. Kang and S. Sinha

**C25** A Large Aperture 2-Axis Electrothermal MEMS Mirror for Compact 3-D LiDAR

2019 International Conference on Optical MEMS and Nanophotonics

D. Wang, C. Watkins, M. Aradhya, **S. J. Koppal** and H. Xie

**C24** A Compact Omnidirectional Laser Scanner Based on an Electrothermal Tripod MEMS Mirror for LiDAR

Transducers 2019

D. Wang, C. Watkins, **S. J. Koppal**, M. Li, Y. Ding and H. Xie

**C23** EyeVEIL: Degrading Iris Authentication in Eye-Tracking Headsets

ETRA 2019

B. John, **S. J. Koppal** and E. Jain

**C22** Learning Privacy Preserving Encodings through Adversarial Training

IEEE Winter Conference on Applications in Vision (WACV), 2019

F. Pittaluga, **S. J. Koppal** and A. Chakrabarti

**C21** Directionally Controlled Time-of-Flight Ranging for Mobile Sensing Platforms

Robotics Science and Systems (RSS), 2018

Z. Tasneem, D. Wang, H. Xie and **S. J. Koppal**

**C20** An Integrated Forward-View 2-Axis MEMS Scanner for Compact 3D LIDAR

NEMS 2018 *Best Student Paper Award*

D. Wang, S. Rojas, A. Shuping, Z. Tasneem, **S. J. Koppal** and H. Xie

**C19** A Compact 3D LIDAR Based on an Electrothermal Two-Axis MEMS Scanner for Small UAV  
SPIE 2018

D. Wang, S. Strassle, A. Stainsby, Y. Bai, **S. J. Koppal** and H. Xie

**C18** Designing Light Filters to Detect Skin Using a Low-powered Sensor  
SoutheastCon 2018

M. Tariq, A. Ghosh, K. Badillo-Urquiola, A. Jha, **S. J. Koppal**, and P. J. Wisniewski

**C17** Tracking Radioactive Sources through Sensor Fusion of Omnidirectional LIDAR and Isotropic Rad-detectors  
3DV 2017

K. Henderson, K. Stadnikia, A. Enqvist and **S. J. Koppal**

**C16** A Compact MEMS-Based Wide-Angle Optical Scanner  
International Conference on Optical MEMS and Nanophotonics (OMN), 2017

B. Yang, L. Zhou, X. Zhang, D. Wang, **S. J. Koppal** and H. Xie

**C15** Situational Information Guidance for Revised Detection Limits  
Nuclear Science Symposium / Medical Imaging Conference 2017

K. Stadnikia, K. Henderson, **S. J. Koppal** and A. Enqvist

**C14** A Wide-angle Immersed MEMS Mirror and Its Application in OCT  
International Conference on Optical MEMS and Nanophotonics, 2016

X. Zhang, L. Zhou, C. Duan, D. Zheng, **S. J. Koppal**, and H. Xie

**C13** Data Fusion for a Vision-Radiological System: Calibration Algorithm Response to Sensor Location  
INMM 2016

K. Stadnikia, A. Martin, P. Riley, K. Henderson, **S. J. Koppal** and A. Enqvist

**C12** Focal flow: Measuring distance and velocity with defocus and differential motion  
[ECCV 2016 Best Student Paper](#)

E. Alexander, Q. Guo, **S.J. Koppal**, S.J. Gortler, and T. Zickler

**C11** Sensor-level privacy for thermal cameras  
International Conference on Computational Photography (ICCP), 2016

F. Pittaluga, A. Zivkovic and **S. J. Koppal**

**C10** Low-cost depth and radiological sensor fusion to detect moving sources  
3DV, 2015

P. Riley, A. Enqvist and **S. J. Koppal**

**C09** Privacy preserving optics for miniature vision sensors  
Conference on Computer Vision and Pattern Recognition (CVPR), 2015

F. Pittaluga and **S. J. Koppal**

**C08** Data Fusion for a Vision-Radiological System for Source Tracking and Discovery  
Advancements in Nuclear Instrumentation Measurement Methods and their Applic., 2015

A. Enqvist and **S. J. Koppal**

**C07** MEMS mirrors submerged in liquid for wide-angle scanning  
International Conference on Solid-State Sensors, Actuators and Microsystems, 2015  
X. Zhang, R. Zhang, **S. J. Koppal**, E. Butler, X. Cheng and H. Xie

**C06** Wide-angle micro sensors for vision on a tight budget  
Conference on Computer Vision and Pattern Recognition (CVPR), 2011.  
**S. J. Koppal**, I. Gkioulekas, T. Zickler and G. Barrows

**C05** Shadow cameras: Reciprocal views from illumination masks  
International Conference on Computer Vision (ICCV), 2009.  
**S. J. Koppal** and S. G. Narasimhan

**C04** Temporal dithering of illumination for fast active vision  
European Conference on Computer Vision (ECCV), 2008.  
S. G. Narasimhan, **S. J. Koppal** and S. Yamazaki

**C03** Novel depth cues from uncalibrated near-field lighting  
International Conference on Computer Vision (ICCV), 2007.  
**S. J. Koppal** and S. G. Narasimhan

**C02** Clustering appearance for scene analysis  
Conference on Computer Vision and Pattern Recognition (CVPR), 2006.  
**S. J. Koppal** and S. G. Narasimhan

**C01** Structured light from scattering media  
International Conference on Computer Vision (ICCV), 2005.  
S. G. Narasimhan, S. K. Nayar, B. Sun and **S. J. Koppal**

## **Book chapters**

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**BC02 Koppal S.J.** (2014/2019) Lambertian Reflectance. In: Ikeuchi K. (eds) Computer Vision. Springer, Boston, MA

**BC01 Koppal S.J.** (2014/2019) Diffuse Reflectance. In: Ikeuchi K. (eds) Computer Vision. Springer, Boston, MA

## **Workshops and other publications**

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**W08** Cost-efficient Active Illumination Camera For Hyper-spectral Reconstruction  
arXiv, 2024  
Yuxuan Zhang, T.M. Sazzad, Yangyang Song, Spencer J. Chang, Ritesh Chowdhry, Tomas Mejia, Anna Hampton, Shelby Kucharski, Stefan Gerber, Barry Tillman, Marcio F. R. Resende, William M. Hammond, Chris H. Wilson, Alina Zare, **S. J. Koppal**

**W07** SpectralZoom: Efficient Segmentation with an Adaptive Hyperspectral Camera  
arXiv, 2024  
Jackson Arnold, Sophia Rossi, Chloe Petrosino, Ethan Mitchell, **S. J. Koppal**

**W06** BlockSLAM: Privacy and Security in Spatial Computing for the Gig Economy  
FOCUS Lab Position Paper 2022

**S. J. Koppal**

**W05** Let It Snow: Adding pixel noise to protect the user's identity  
1st International Workshop on Privacy and Ethics in Eye Tracking (PrETHics), 2020  
B. John, A. Liu, L. Xia, **S. J. Koppal** and E. Jain

**W04** A low-power structured light sensor for outdoor scene reconstruction and dominant material identification

International Workshop on Projector-Camera Systems, 2012

C. Mertz, **S. J. Koppal**, S. Sia and S. G. Narasimhan

**W03** Illustrating motion through DLP Photography

PROCAMS, 2008

**S. J. Koppal** and S. G. Narasimhan

**W02** Leveraging Gaze Data for Segmentation and Effects on Comics

ACM Symposium on Applied Perception Poster, 2016

I. Thirunarayanan, **S. J. Koppal**, J. Shea and E. Jain

**W01** Taylor Series of Appearance Functions

CMU-Robotics Institute Technical report, 2006

**S. J. Koppal**, A. Datta, S. G. Narasimhan and K. Nishino

## **PATENTS**

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**P08** **S. J. Koppal**, Z. Tasneem, D. Wang, H. Xie and B. Tilmon

Fast foveation camera and controlling algorithms

US Patent US11800205B2, 2023

**P07** Huikai Xie, **S. J. Koppal**, X. Zhang, L. Zhou and C. Duan

Endoscopic oct probes with immersed mems mirrors

US Patent US11259685B2, 2022

**P06** **S. J. Koppal** and F. Pittaluga

Optical privatizing device

US Patent US10440348B2, 2019

**P05** **S. J. Koppal** and Vikram Appia

Time-of-Flight (TOF) Assisted Structured Light Imaging

US Patent US10061028B2, 2018

**P04** **S. J. Koppal**

Controlling Image Focus in Real-Time Using Gestures and Depth Sensor Data

US Patent US10079970B2, 2018

**P03** **S. J. Koppal**

Depth sensor data with real-time processing of scene sensor data

US Patent US9767545B2, 2017



**P02** T. Zickler, **S. J. Koppal**, G. L. Barrows and I. Gkioulekas  
Optical micro-sensor  
US Patent US9176263B2, 2015

**P01** **S. J. Koppal**, S.B. Kang, C.L. Zitnick, M.F. Cohen, and B.K. Ressler  
Stereo movie editing  
US Patent US8330802B2, 2012

## **FUNDING AWARDS (TOTAL ~ \$6.5M, PI SHARE ~ \$3.7M)**

**F14** DURIP: Electro-Optical Sensor Prototype with Phase/Amplitude Analysis (2024-2025)  
Office of Naval Research (ONR) N000142412495  
Total ~ \$200,000 PI share ~ \$200,000

**F13** Simultaneous imaging of multiple targets using an electrowetting prism array (2024-2026)  
Office of Naval Research (ONR) through CU Boulder  
Total ~ \$300,000 co-PI share ~ \$300,000

**F12** Rapid High-Resolution Target Aerial Detection and Tracking through Deep Foveated (2023-2027)  
Office of Naval Research (ONR) N00014-23-1-2429  
Total ~ \$1M PI share ~ \$1M

**F11** Re-Configurable Electro-Optical Device for Accelerating Deep-Network Training and Inference on Small Autonomous Platforms (2023-2026)  
Office of Naval Research (ONR) N00014-23-1-2363  
Total ~ \$360,000 PI share ~ \$360,000

**F10** FRR: Underwater Robot Navigation and Localization During Recovery by Optical Homing (2023-2026)  
National Science Foundation (NSF) 2330416  
Total ~ \$599,503 co-PI share ~ \$173,000

**F09** CAREER: Fast Foveation: Bringing Active Vision into the Camera (2020-2025)  
National Science Foundation (NSF) 1942444  
Total ~ \$500,000 PI share ~ \$500,000

**F08** SITS: Hyperspectral Signals in the Soil (2020-2022)  
National Institute of Food and Agriculture FLA-AGR-006015  
Total ~ \$1,200,000 co-PI share ~ \$250,000

**F07** Elements: Cyberinfrastructure Service for IoT-Based Construction Research and Applications (2020-2022)  
National Science Foundation (NSF)  
Total ~ \$455,114.00 co-PI share ~ \$11,000

**F06** Dynamic Light Transport Acquisition and Applications to Computational Illumination (2019-2022)

National Science Foundation (NSF) 1909729

Total ~ \$500,000 PI share ~ \$250,000

**F05** Directionally Controlled Time-of-Flight Sensors: Algorithms, Optical and Imaging (2018-2022)

Office of Naval Research (ONR) N00014-18-1-2663

Total ~ \$780,000 PI share ~ \$390,000

**F04** Novel Micro-LIDAR design and sensing algorithms for flapping-wing Micro-aerial Vehicle (2015-2019)

National Science Foundation (NSF) 1514154

Total ~ \$400,000 PI share ~ \$200,000

**F03** Radiological Source Detection and Tracking Based on Multi-Sensor Data Fusion (2014-18)

Department of Homeland Security (DHS) 2014-DN-077-ARL083-03

Total ~ \$890,000, co-PI share ~ \$460,000

**F02** Wide-angle optics for micro-LIDAR sensor (2018-2020)

MIST Center Award, Total ~ \$100000, PI share ~ \$50000

**F01** Texas Instruments Embedded Processing University Funding Award (2013)

## **TEACHING**

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**T03** Advanced Robot Perception, Spring 2021-present

*I developed this course from scratch at UF. It teaches students effective wielding of a subset of deep learning approaches that are practically useful for building perception algorithms for robotic systems. The focus here is on data from real sensors in robotic and autonomous scenarios, such as thermal cameras (both MWIR and LWIR), event cameras, stereo cameras, high-speed cameras, LIDAR sensors and optical processors.*

**T02** Computational Photography, Fall 2014-present

Latest rating 4.3 for undergraduates and 4.5 for graduate students

*I developed this Computational Photography course from scratch at UF, and which received its official course numbers recently (EEL 4403/5406). This course contains hands-on lab activity, with simple but powerful computational photography techniques.*

**T01** Signals and Systems, Spring 2015-present

Latest rating 3.8 for undergraduates

*EEL 3135 (Signals and Systems) is a core course for an undergraduate degree in Electrical and Computer Engineering at UF. The goal of the course is to garner a practice-based understanding of time-varying information (signals) and the software/circuits needed to process these (systems). I exploit the flipped nature of the class to help students develop abstract complex number processing skills.*

## **STUDENTS**

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### **Ph.D. Students**

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**D13** Xiaoyang Zhang, graduated 2016 (co-advised)

Thesis: Robust Electrothermally Actuated Scanner for Fiberoptic Endoscopic Imaging and Wide-angle Optics

Apple (first appointment)

**D12** Francesco Pittaluga, graduated 2019

Thesis: Privacy Preserving Computational Cameras

2018 Microsoft Research Dissertation Awardee

NEC Labs (first appointment)

**D11** Kristofer Henderson, graduated 2020

Thesis: Sensor Fusion for Non-Line-of-Sight Visualization and Imaging

Lockheed Martin (first appointment)

**D10** Dingkang Wang, graduated 2021

Thesis: Quasi-static forward scanning electrothermal MEMS mirrors for LIDAR

Texas Instruments (first appointment)

**D09** Xiaomeng Liu, graduated 2022

Thesis: Lightweight Light Transport for Non-line-of-sight Imaging

**D08** Brevin Tilmon, graduated 2023

Thesis: Foveated Computational Imaging

Quidient (first appointment)

**D07** Justin Folden, graduated 2024

Thesis: Foveated Depth Sensing (2023)

**D06** Hannah Kirkland, expected Dec 2026

**D05** Yuxuan Zhang, expected Dec 2026

**D04** Mehran Keivanimehr, expected Dec 2026

**D03** Dexter Burns, expected Dec 2029

**D02** Michael Tomadakis, expected Dec 2029

**D01** Jacob Carter, expected Dec 2029

### **Thesis committees**

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Yiming Cui Electrical and Computer Engineering

Dylan Stewart Electrical and Computer Engineering

Taylor Harvey Nuclear Engineering Science

Xiaohui Huang Computer Science

Washington Garcia Computer Science  
Heng Qiao Electrical and Computer Engineering  
Guohao Yu Electrical and Computer Engineering  
Jiaqi Zhang Electrical and Computer Engineering  
Keerthiraj Nagaraj Electrical and Computer Engineering  
Rajendra Bhat Electrical and Computer Engineering  
Richard Al-Bayaty Electrical and Computer Engineering  
Manu Chandran Electrical and Computer Engineering  
Pratik Brahma Electrical and Computer Engineering  
Chiranjib Sur Computer Engineering  
Kelsey Stadniki Nuclear Engineering Sciences  
Xiaohui Huang Computer Science  
Inchul Choi Computer Science  
Xianjin Dai Biomedical Engineering  
Paul Johns Nuclear Engineering Science

## **SERVICE**

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**S05** PAMI Chair for International Conference on Computational Photography (ICCP) 2023

**S04** Area chair for Computer Vision and Pattern Recognition (CVPR) 2019/2020/2023/2024

**S03** Co-chair for Cameras and Computational Displays (CCD) 2018 workshop held in conjunction with CVPR 2018/2019

**S02** Posters/Demos co-chair for International Conference on Computational Photography (ICCP) 2018 and 2020

**S01** Reviewer for Scholarly Journals/Conferences

IEEE Pattern Analysis and Machine Intelligence (PAMI), IEEE Transactions on Image Processing (TIP), International Journal on Computer Vision (IJCV), Computer Vision and Pattern Recognition (CVPR), European Conference on Computer Vision (ECCV), International Conference on Computer Vision (ICCV), International Conference on Computational Photography (ICCP)

## **INVITED TALKS AND SEMINARS**

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**IT 34** Adaptive Attention: Bringing Active Vision into the Camera  
University of Southern California  
Los Angeles, CA (October 2023)

**IT 33** Adaptive Attention: Bringing Active Vision into the Camera  
University of Colorado, Boulder  
Boulder, CO (February 2023)

**IT 32** Adaptive Attention: Bringing Active Vision into the Camera  
University of Toronto  
Toronto, Canada (October 2022)

**IT 31** Adaptive Attention: Bringing Active Vision into the Camera  
University of Washington  
Seattle, WA (April 2022)

**IT 30** Adaptive Attention: Bringing Active Vision into the Camera  
Purdue University  
West Lafayette, IN (February 2022)

**IT 29** Adaptive Attention: Bringing Active Vision into the Camera  
University of Arizona  
Tucson, AZ (February 2022)

**IT 28** Adaptive Attention: Bringing Active Vision into the Camera  
Kyoto University  
Kyoto, Japan (December 2021)

**IT 27** Adaptive Attention: Bringing Active Vision into the Camera  
Stevens Institute of Technology  
Hoboken, NJ (November 2021)

**IT 26** Adaptive Attention: Bringing Active Vision into the Camera  
Cornell University  
Ithaca, NY (November 2021)

**IT 25** Adaptive Attention: Bringing Active Vision into the Camera  
Simon Fraser University  
Vancouver, Canada (September 2021)

**IT 24** Adaptive Attention: Bringing Active Vision into the Camera  
Oregon State University  
Corvallis, OR (September 2021)

**IT 23** Adaptive Attention: Bringing Active Vision into the Camera  
Toyota Technical Institute Chicago  
Chicago, IL (August 2021)

**IT 22** Fast Foveating Sensors  
University of Buffalo  
Buffalo, NY (April 2021)

**IT 21** Fast Foveating Cameras  
Optical Society of America (OSA) Imaging Systems and Applications  
Vancouver, Canada (June 2020)

**IT 20** Fast Foveating Cameras  
Carnegie Mellon University Vision and Autonomous Systems (VASC) Seminar  
Pittsburgh, PA (Feb 2020)

**IT 19** Fast Foveating Cameras  
Computer Vision and Pattern Recognition (CVPR) Area Chair Workshop  
La Jolla, CA (Feb 2020)

**IT 18** Fast Foveating Cameras  
Rice University  
Houston, TX (Feb 2020)

**IT 17** Fast Foveating Cameras  
Rutgers University  
New Brunswick, NJ (Oct 2019)

**IT 16** Selective Imaging with Computational Cameras  
Snap Research Lab  
New York, NY (Oct 2019)

**IT 15** Fast Foveating Cameras  
Texas Photonics Center and Center for Digital MEMS University of Texas  
Dallas, TX (April 2019)

**IT 14** Fast Foveating Cameras  
CVPR AC Workshop  
La Jolla, CA, (Feb 2019)

**IT 13** Fast Foveating Cameras  
Institute for Virtual Environments and Video Games, University of California  
Irvine, CA (Feb 2019)

**IT 12** Fast Foveating Cameras  
Banff International Research Station for Mathematical Innovation and Discovery (BIRS),  
Computational Light Transport Workshop  
Banff, Canada, (Feb 2019)

**IT 11** Optics and Sensing for Small Vision Platforms  
FAU I-SENSE  
Boca Raton, FL (Jan 2019)

**IT 10** Toward Miniature Computer Vision Sensors  
OSA Imaging Systems and Applications  
Orlando, FL (June 2018)

**IT 09** Small Vision Sensors for Phenomics  
Phenome  
Tucson, AZ (February 2018)

**IT 08** Towards Privacy Preserving Cameras  
ASU SENSIP  
Phoenix, AZ (2018)

**IT 07** Wide-FOV Sensing & Optical Processing for Small Vision Applications  
OSA Incubator on Small Eyes and Smart Minds  
Washington, DC (October 2017)

**IT 06** Towards Privacy Preserving Cameras

IRISA-Rennes  
Rennes, France (2017)

**IT 05** Towards Privacy Preserving Cameras  
Technicolor R&D Labs  
Rennes, France (2017)

**IT 04** Towards Privacy Preserving Cameras  
INRIA-Bordeaux/LPN2  
Bordeaux, France (2017)

**IT 03** Towards Privacy Preserving Cameras  
UCF CRCV  
Orlando, FL (2017)

**IT 02** Towards Micro Vision Sensors  
UCF CREOL  
Orlando, FL (2017)

**IT 01** Privacy Preserving Sensors  
University of Miami CSD  
Miami, FL (2015)

## **MEDIA COVERAGE**

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**MC 07** "Fresh Coffee from Florida? Scientists are Brewing up the Possibility"  
freshproduce.com 2021

**MC 06** "Revealing Scenes by Inverting SFM Reconstructions"  
Computer Vision News 2020

**MC 05** "Best of ECCV: Focal Flow"  
Computer Vision News 2016

**MC 04** "RoboBees Can Fly and Swim. What's Next? Laser Vision"  
Smithsonian Magazine 2015

**MC 03** "RoboBee Lidar Useful for Robocars?"  
IEEE Spectrum 2015

**MC 02** "'RoboBees' with Laser Eyes Could Locate Disaster Victims"  
NBC News 2015

**MC 01** "Scientists Are Using Lasers to Teach RoboBees to See"  
Smithsonian Magazine 2015

## **OTHER INFORMATION**

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Languages: English, Hindi, Kannada

Citizenship: U.S.A

Lab Website: [focus.ece.ufl.edu](http://focus.ece.ufl.edu)