

# Brevin Tilmon

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## Education

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### University of Florida

Ph.D. Electrical and Computer Engineering  
Advised by Dr. Sanjeev Koppal

2019 - 2023 (expected)

### Murray State University

B.S. Engineering Physics

2015 - 2019

## Experience

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### Meta

2021

#### Research Intern, [Reality Labs](#)

Developed an efficient machine learning stereo depth estimation algorithm for augmented and virtual reality systems. Scaled the algorithm into production machine learning infrastructure.

### NASA

2021

#### Research Intern, [Intelligent Robotics Group](#)

Developed a simulator and 3D reconstruction algorithms for a computational imaging sensor to estimate the geometry and reflectance of planetary surfaces. [[link](#)]

### University of Florida

2019 - Present

#### Graduate Research Assistant, [FOCUS Lab](#)

Built differentiable computational imaging sensors, both optics and algorithms, that quickly and selectively sense the environment for efficient computer vision applications such as depth estimation and eye tracking. Focused on geometric computer vision, machine learning, optics, GPU and systems programming.

## Publications

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1. [SaccadeCam: Adaptive Visual Attention for Monocular Depth Sensing](#)  
B. Tilmon and S. J. Koppal  
International Conference on Computer Vision (ICCV), 2021
2. [Fast Foveating Cameras for Dense Adaptive Resolution](#)  
B. Tilmon, E. Jain, S. Ferrari and S. J. Koppal  
Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2021
3. [FoveaCam: A MEMS Mirror-Enabled Foveating Camera](#)  
B. Tilmon, E. Jain, S. Ferrari and S. J. Koppal.  
International Conference on Computational Photography (ICCP), 2020
4. [Towards a MEMS-based Adaptive LIDAR](#)  
F. Pittaluga, Z. Tasneem, J. Folden, B. Tilmon, A. Chakrabarti and S. J. Koppal.  
International Conference on 3D Vision (3DV), 2020
5. [Design and Calibration of a Fast Flying-Dot Projector for Dynamic Light Transport Acquisition](#)  
K. Henderson, X. Liu, J. Folden, B. Tilmon, S. Jayasuriya and S. J. Koppal.  
Transactions on Computational Imaging 2020
6. [Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components](#)  
G. Bunget, B. Tilmon, A. Yee, D. Stewart, J. Rogers, et al.  
American Institute of Physics 2018

## Skills

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- C++, Python, PyTorch/LibTorch, CUDA, NVIDIA OptiX, Mitsuba
- Depth/RGB Cameras, Embedded Systems, Optics Bench