

Brevin Tilmon

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Education

University of Florida

Ph.D. Electrical and Computer Engineering

2019 - Present

Murray State University

B.S. Engineering Physics

2015 - 2019

Experience

Facebook

Research Intern, Facebook Reality Labs, Advised by Dr. Shuochen Su

- Developing computer vision and machine learning algorithms for augmented reality systems.

2021 - Present

NASA

Research Intern, Intelligent Robotics Group, Advised by Dr. Uland Wong

- Developed 3D reconstruction and neural inverse rendering algorithms for an internal computational imaging sensor.
- Developed a computational imaging sensor simulator with NVIDIA OptiX ray tracer to benchmark various algorithms.

2021

University of Florida

Graduate Research Assistant, Advised by Dr. Sanjeev Koppal

- Developed novel computer vision and machine learning algorithms.
- Developed custom computational imaging systems for low latency demonstrations and hardware prototyping.

2019 - Present

Publications

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

Patents

1. **Fast Foveation Camera and Controlling Algorithms**
S. Koppal, Z. Tasneem, D. Wang, H. Xie, B. Tilmon

Skills

Software: Python, C++, PyTorch, CUDA, NVIDIA OptiX, Mitsuba

Hardware: Depth/RGB Cameras, Embedded Systems, Optics Bench