Brevin Tilmon

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Education

University of Florida 2019 - Present
Ph.D. Electrical and Computer Engineering
Advised by Dr. Sanjeev Koppal

Murray State University 2015 - 2019
B.S. Engineering Physics
GPA: 3.8/4.0
Courses: Linear Algebra, Calculus II and III, Differential Equations, Geometric and Wave Optics, Quantum Mechanics, Machine Learning, Digital Signal Processing (continuous and discrete), Digital Circuits and Systems, Circuit Theory, Control Systems, Robot Dynamics, Advanced Electromagnetism

Experience

Facebook 2021 - Present
Research Intern, Facebook Reality Labs, Advised by Dr. Shuochen Su
- Developing computer vision and machine learning depth perception algorithms for AR/VR.

NASA 2021
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.

University of Florida 2019 - Present
Graduate Research Assistant, Advised by Dr. Sanjeev Koppal
- Developed novel computer vision and machine learning algorithms.
- Developed custom computational imaging hardware.

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

Skills

Software: Python, C++, PyTorch, CUDA, NVIDIA OptiX, Mitsuba
Hardware: Depth/RGB Cameras, Embedded Systems, Optics Bench