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, Advanced Electromagnetism, Quantum Mechanics, Machine Learning, Digital Signal Processing, Digital Circuits and Systems, Circuit Theory, Control Systems, Robot Dynamics

Experience

Meta 2021 - Present
Research Intern, Reality Labs, Advised by Dr. Shuochen Su and Dr. Michael Hall
- Developed an efficient machine learning depth estimation algorithm for AR/VR. Scaled the algorithm into production machine learning infrastructure.

NASA 2021
Research Intern, Intelligent Robotics Group, Advised by Dr. Uland Wong
- Developed a simulator and neural rendering 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, Advised by Dr. Sanjeev Koppal
- Research in computer vision, computational photography and machine learning. Developed novel algorithms and 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: C++, Python, PyTorch, CUDA, NVIDIA OptiX, Mitsuba
Hardware: Depth/RGB Cameras, Embedded Systems, Optics Bench