Brevin Tilmon

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Research Interests

I am interested in computational photography, computer vision and machine learning. My research involves developing adaptive computational imaging systems.

Education

PhD, Electrical Engineering, University of Florida — Present
BSE, Engineering Physics, Murray State University — 2019

Work Experience

Facebook, Camera & Sensor Group, Redmond, WA — Fall 2021
Research Intern
Depth sensing for augmented/virtual reality.

NASA, Intelligent Robotics Group, Mountain View, CA — Summer 2021
Research Intern
3D reconstruction and computational photography.

University of Florida, FOCUS Lab, Gainesville, FL — Present
Graduate Research Assistant to Dr. Sanjeev J. Koppal
Developing adaptive computational imaging systems and machine learning algorithms.

Publications

1. SaccadeCam: Adaptive Visual Attention for Monocular Depth Sensing
   B. Tilmon and S. J. Koppal
   arXiv 2021
2. Fast Foveating Cameras for Dense Adaptive Resolution
   B. Tilmon, E. Jain, S. Ferrari and S. J. Koppal
   Pattern Analysis and Machine Intelligence (PAMI 2021)
3. FoveaCam: A MEMS Mirror-Enabled Foveating Camera
   B. Tilmon, E. Jain, S. Ferrari, 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, 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, S.J. Koppal.
   IEEE Transactions on Computational Imaging (TCI 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

Awards

NSF GRFP Honorable Mention — 2020
Graduate School Preeminence Award, University of Florida — 2019
Kirkland Fellowship, University of Florida — 2019
Jesse & Deborah Jones Scholarship, Murray State University — 2015

Housing Scholarship, Murray State University 2015

Skills

Programming: C/C++, Python, MATLAB
Sensors and Robotics: Depth/RGB Cameras, Embedded Systems, Optics Bench