Brevin Tilmon

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RESEARCH STATEMENT

My research interests are **Computer Vision**, **Computational Photography**, and **Machine Learning**. I am interested in developing computational cameras for active vision and robotics tasks.

EDUCATION

University of Florida, Gainesville, FL *2019.9 - 2025.5(expected)*
PhD Student, Electrical and Computer Engineering Department, Advisor: Prof. Sanjeev Koppal

Murray State University, Murray, KY *2015.9 - 2019.5*
Bachelor of Science, Engineering Physics, GPA: 3.8/4.0

PUBLICATIONS

1. **Brevin Tilmon**, Eakta Jain, Silvia Ferrari, Sanjeev Koppal. FoveaCam: A MEMS Mirror-Enabled Foveating Camera. *International Conference on Computational Photography 2020.*
2. Francesco Pittaluga, Zaid Tasneem, Justin Folden, **Brevin Tilmon**, Ayan Chakrabarti, Sanjeev Koppal.A MEMS-Based Foveating LIDAR to Enable Real-Time Adaptive Depth Sensing. *arXiv 2020.*
3. Kristofer Henderson, Xiaomeng Liu, Justin Folden, **Brevin Tilmon**, Suren Jayasuriya, Sanjeev Koppal. Design and Calibration of a Fast Flying-Dot Projector for Dynamic Light Transport Acquisition. *IEEE Transactions on Computational Imaging 2020.*
4. Gheorge Bunget, **Brevin Tilmon**, Andrew Yee, Dylan Stewart, James Rogers, et al. Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components. *American Institute of Physics 2018.*

RESEARCH EXPERIENCE

University of Florida, Gainesville, FL *2019.8 - 2025.5(expected)*
FOCUS Lab
Research Assistant, Advisor: Prof. Sanjeev Koppal

Project 1: Foveating Cameras

- Built FoveaCam, a camera equipped with a MEMS mirror in-camera to near-instantly modulate its field of view.
- Developed control algorithms that modulate FoveaCam field of view for optimal sensing strategies.
- Collected custom datasets to show deep learning performance gains from FoveaCam resolution.

AWARDS

NSF GRFP Honorable Mention 2020
Graduate School Preeminence Award, University of Florida 2019-2024
Kirkland Fellowship, University of Florida 2019-2021
Jesse & Deborah Jones Scholarship, Murray State University 2015-2019
Housing Scholarship, Murray State University 2015-2018

SKILLS

Programming: C/C++, Python, MATLAB
Sensors and Robotics: Machine vision and depth cameras, Embedded Systems, Optics Bench