

Brevin Tilmon

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Interests

Computer Vision (3D computer vision), Computational Photography (efficient cameras, projectors, LIDAR systems, image enhancement), Machine Learning (unsupervised learning, lightweight models for computer vision in the wild)

Education

University of Florida 5/2019 - 5/2023 (expected)

Ph.D. Electrical and Computer Engineering

Advisor: Sanjeev Koppal

Murray State University 8/2015 - 5/2019

B.S. Engineering Physics

Experience

Snap Inc. 5/2022 - Present

Research Intern, Computational Imaging Team

Supervisors: Sizhuo Ma and Jian Wang

Project: Low power depth estimation on mobile devices

Meta 8/2021 - 12/2021

Research Intern, Reality Labs

Supervisors: Shuochen Su and Michael Hall

Project: Dynamic occlusion based on stereo depth estimation

NASA Ames Research Center 5/2021 - 8/2021

Research Intern, Intelligent Robotics Group

Supervisors: Michael Dille and Uland Wong

Project: 3D reconstruction and neural rendering

University of Florida 5/2019 - Present

Graduate Research Assistant, FOCUS Lab

Advisor: Sanjeev Koppal

Projects: Computer vision algorithms and efficient cameras, projectors, and LIDAR systems

Publications

SaccadeCam: Adaptive Visual Attention for Monocular Depth Sensing

B. Tilmon and S. J. Koppal

IEEE/CVF International Conference on Computer Vision (ICCV), 2021

Fast Foveating Cameras for Dense Adaptive Resolution

B. Tilmon, E. Jain, S. Ferrari and S. J. Koppal

IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2021

FoveaCam: A MEMS Mirror-Enabled Foveating Camera

B. Tilmon, E. Jain, S. Ferrari and S. J. Koppal.

IEEE International Conference on Computational Photography (ICCP), 2020

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

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.
IEEE Transactions on Computational Imaging 2020

Open Source Software

illumiGrad [\[link\]](#)

PyTorch-abstracted online camera calibration for RGBD cameras

Patents

Efficient Dynamic Occlusion based on Stereo Vision

B. Tilmon, S. Su, M. Hall
under review, 2022

Fast Foveation Camera and Controlling Algorithms

S. J. Koppal, Z. Tasneem, D. Wang, H. Xie, B. Tilmon
US16844597, 2020

Awards

National Science Foundation Graduate Research Fellowship Honorable Mention	2021
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Graduate School Preeminence Award, University of Florida Selective fellowship for competitive PhD applicants.	2019 - 2024
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Jesse & Deborah Jones Endowment Scholarship, Murray State University Merit scholarship covered housing and partial tuition.	2015 - 2019
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