Brevin Tilmon

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RESEARCH

Computer Vision, Machine Learning, Computational Photography
Experienced in developing computer vision software and hardware systems.

EDUCATION

University of Florida May 2019 - Present
Ph.D. Electrical Engineering

Murray State University Aug 2015 - May 2019
B.Sc. Engineering Physics

PUBLICATIONS

FoveaCam: A MEMS Mirror-Enabled Foveating Camera
IEEE International Conference on Computational Photography (Under Review, ICCP 2020)
Brevin Tilmon, Eakta Jain, Silvia Ferrari, and Sanjeev Koppal.

Design and Calibration of a Fast Flying-Dot Projector for Dynamic Light Transport Acquisition
IEEE Transactions on Computational Imaging (TCI), 2019
Kristofer Henderson, Xiaomeng Liu, Justin Folden, **Brevin Tilmon**, Suren Jayasuriya, and Sanjeev Koppal

Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components
American Institute of Physics, 2018
Gheorge Bunget, **Brevin Tilmon**, Andrew Yee, Dylan Stewart, James Rogers, Matthew Webster, Kevin Farinholt, Fritz Friedersdorf, Marc Pepi, and Anindya Ghoshal.

EXPERIENCE

Research Assistant May 2019 - Present
FOCUS Lab, University of Florida, Advisor: Dr. Sanjeev Koppal
Design and build novel computational cameras.

Research Intern - SURF Program Summer 2018
FOCUS Lab, University of Florida, Advisor: Dr. Sanjeev Koppal
Developed projector-camera system leveraging a MEMS mirror for intelligent light projection that enabled separation of light components.

Undergraduate Research Assistant Jan 2016 - May 2019
NDE Lab, Murray State University, Advisor: Dr. Gheorge Bunget
Developed wavelet cross-correlation algorithm for filtering images to determine damage locations in materials from the United States Army and Vectren Corporation.

Electrical Engineering Intern Summer 2017
Berry Global, Evansville, IN
Developed graphical user interface application for controlling systems throughout the facility based on sensor data.

Teaching Assistant Jan 2016 - May 2019
Murray State University
Led weekly lab experiments for various physics courses. Topics included mechanics and electromagnetism.

President Nov 2016 - May 2019

IEEE Robotics Team, Murray State University

Developed autonomous robots that annually competed in the IEEE SoutheastCon Hardware Competition. Implemented computer vision and machine learning algorithms for embedded computer vision and lidar processing tasks. Led outreach activities to local elementary schools surrounding Murray State University in accordance with NASA grants. Placed 12th out of 46 schools in 2019 (video on website).

AWARDS

Graduate School Preeminence Award - University of Florida 2019-2024
Kirkland Fellowship - University of Florida 2019-2020
Sigma Pi Sigma (Physics) - Murray State University 2019
Jesse D. Jones Endowment Scholarship - Murray State University 2015-2019
Engineering Physics Housing Scholarship - Murray State University 2015-2017

SKILLS

Programming: C/C++ and Python
Software: OpenCV, Pytorch, MATLAB, CUDA, Halide, Tensorflow, ROS, SolidWorks
Operating Systems: Unix and Windows
Microcontrollers Nvidia Jetson Nano, Raspberry Pi 3, Arduino

GRADUATE CLASSES

Digital Signal Processing, Machine Learning, Machine Learning for Time Series, Computer Vision, Computational Photography

Citizenship: U.S.A.
Languages: English