

Brevin Tilmon

Skills	Computer Vision, Computational Imaging, Machine Learning, Software Engineering (C++, CUDA, Python), Research, Embedded Systems	
Personal	Personal Website, Github, Google Scholar Email: brevinjt@gmail.com Phone: 812-568-3344	
Education	University of Florida Ph.D. Electrical and Computer Engineering Murray State University B.S. Electrical Engineering	05/19-12/23(Expected) 08/15-05/19
	Snap Inc. Research Intern, Computational Imaging Group Managers: Jian Wang, Sizhuo Ma, Guru Krishnan Developed state-of-the-art energy-efficient active stereo 3D sensor for computer vision, published results in CVPR 2023, and submitted patent. Designed hardware (optics, electronics, 3D printing) and software (CUDA, OpenGL, C++) components for self-contained and mobile hardware prototype. [Project Website]	05/22-12/22
	Meta Research Intern, Reality Labs Managers: Shuochen Su, Michael Hall Developed machine learning model in PyTorch for better selective depth sensing than classic stereo on Meta’s AR/VR devices. Leveraged Meta’s production machine learning infrastructure (distributed training, model quantization, large synthetic and real datasets). Submitted patent.	08/21-12/21
	NASA Research Intern, Intelligent Robotics Group Managers: Uland Wong, Michael Dille Improved generalization capabilities of a computational imaging microscope in development for ultra-high resolution 3D reconstruction and reflectance capture in space. Developed CUDA simulator with various BRDF models. [Dataset Link]	05/21-08/21
	University of Florida Graduate Research Assistant, Florida Optics and Computational Sensor Lab Advisor: Sanjeev Koppal Developed efficient computer vision algorithms and adaptive computational imaging systems. Designed hardware (optics, electronics, 3D printing) and software (C++, CUDA, Python, PyTorch) components for multiple compact real-time computational imaging hardware prototypes. [Personal Website]	05/19-Present
Publication	<ol style="list-style-type: none">1. B. Tilmon, Z. Sun, S. J. Koppal, Y. Wu, G. Evangelidis, R. Zahrredine, G. Krishnan, S. Ma, and J. Wang. “Energy-Efficient Adaptive 3D Sensing”. CVPR, 2023. [Project Website]2. B. Tilmon and S. J. Koppal. “SaccadeCam: Adaptive Visual Attention for Monocular Depth Sensing”. ICCV, 2021. [Project Website]3. B. Tilmon, E. Jain, S. Ferrari and S. J. Koppal. “Fast Foveating Cameras for Dense Adaptive Resolution”. PAMI, 2021. [Project Website]4. B. Tilmon, E. Jain, S. Ferrari and S. J. Koppal. “FoveaCam: A MEMS Mirror-Enabled Foveating Camera”. ICCP, 2020. [Project Website]5. F. Pittaluga, Z. Tasneem, J. Folden, B. Tilmon, A. Chakrabarti and S. J. Koppal. “Towards a MEMS-based Adaptive LIDAR”. 3DV, 2020. [Project Website]6. K. Henderson, X. Liu, J. Folden, B. Tilmon, S. Jayasuriya and S. J. Koppal. “Design and Calibration of a Fast Flying-Dot Projector for Dynamic Light Transport Acquisition”. Transactions on Computational Imaging, 2020. [Project Website]	
Software	<ol style="list-style-type: none">1. holoCu [GitHub]. CUDA implementation and simulator of the holographic projector developed for my CVPR 2023 paper “Energy-Efficient Adaptive 3D Sensing”.2. illumiGrad [Github]. PyTorch bundle adjustment for RGBD cameras.	