

Brian Bogue Jimenez

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ABOUT

Engineering professional with experience spanning software development, deep learning, machine learning, computer vision, microscopy, optics, and metrology. Experienced in working with international team of researchers. Proficient skill in working well across multiple projects and tasks, enjoying the combination of project development, lab work, comprehensive analysis and telling the story. Collaborates effectively with team peers, cross functional resources, and all levels within an organization's hierarchy. Conscientious, reflective, and reliable. Pro-active learner who accelerates quickly into assignments, always monitoring the quality of work. Passionate about advancing science and technology.

EDUCATION

Master of Science, Electrical and Computer Engineering

University of Memphis, Memphis, TN

Major: Electrical and Computer Engineering Graduation date: Dec 2021 GPA 3.81

Bachelor of Science, Electrical and Computer Engineering,

University of Memphis, Memphis, TN

Major: Electrical Engineering Graduation date: May 2020 GPA 3.56 (cum laude)

COURSEWORK

Linear Optical Systems, Electro-Optics, Computer Vision, Pattern Recognition, Random Signals and Noise, Probabilistic Systems Analysis, Signals and System Processing, Machine Learning, Artificial Intelligence, Microprocessors, Embedded Systems, Electromagnetic Field Theory, Photonics, Linear Algebra

COMPUTER SKILLS

Python, MATLAB, Java, C, C++, Mendeley, Zoom, LabView, Microsoft Office

EXPERIENCE

Research/Teaching Assistant, August 2018– December 2023

Optical Imaging Research Laboratory, Herff College of Engineering, Memphis, TN

- Formation of project proposal and associated technical documentation.
- Developed and improved software for automation, image processing and simulations of system results.
- Developed lesson plans, delivered instruction to students and content evaluation.

PROJECTS

Comprehensive Phase Retrieval Application for Holographic Microscopy, 2020–2021

- Developed and implemented an open-source application in Python and MATLAB for the correction of phase information from holographic images.
- Applied Machine Learning and Deep Learning solutions, as well as traditional methods.

Non-Invasive Glucose Monitoring System using Machine Learning, 2020–2021

- Research and literature review of Continuous Non-Invasive Glucose Monitoring devices.
- Development, training, and evaluation of Machine Learning pipelines on collected datasets.

PUBLICATIONS

B. Bogue-Jimenez, C. Trujillo, A. Doblas. "Comprehensive tool for a phase compensation reconstruction method in digital holographic microscopy operation in non-telecentric regime," *PLoS ONE*, 18(9), e0291103 (2023); <https://doi.org/10.1371/journal.pone.0291103>.

Brian Bogue-Jimenez, et al. "Selection of Noninvasive Features in Wrist-Based Wearable Sensors to Predict Blood Glucose Concentrations Using Machine Learning Algorithms," *Sensors*. 22(9) 3534 (6 May 2022) <https://doi.org/10.3390/s22093534>.

Charity Hayes-Rounds, **Brian Bogue-Jimenez**, et al. "Advantages of Fresnel biprism-based digital holographic microscopy in quantitative phase imaging," *J. Biomed. Opt.* 25(8) 086501 (4 August 2020) <https://doi.org/10.1117/1.JBO.25.8.086501>.