**BRIAN BOGUE-JIMENEZ, M.S.**

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# EDUCATION

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| **M.S, Electrical and Computer Engineering** (GPA: 3.81)  *University of Memphis, TN, USA* | 2020 – 2022 |
| B.E, Electrical Engineering(GPA: 3.56) *University of Memphis, TN, USA* | 2015 – 2020 |

# RESEARCH INTERESTS

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| Investigations into optical imaging technologies and instrumentation with an emphasis on microscopy and quantitative phase imaging. Includes digital holographic microscopy, and machine learning/artificial intelligence aided reconstruction methods. |

**RESEARCH EXPERIENCE**

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| **GRADUATE RESEARCH ASSISTANT**  *ECE Department, University of Massachusetts-Dartmouth*  Project: Diatom classification via deep learning using raw holograms | Aug 2023 – Dec 2023 |
| **GRADUATE RESEARCH ASSISTANT**  *EECE Department, University of Memphis*  Thesis:Exploring Non-Invasive Features for Continuous Glucose Monitoring | May 2020 – July 2023 |
| **UNDERGRADUATE RESEARCH ASSISTANT**  *EECE Department, University of Memphis s*  Project: Biometric Analysis and Machine Learning-based Motion Capture System | Aug 2018 – May 2020 |

# INTERNSHIPS

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| **VSFS DEPARTMENT OF ENERGY INTERN COORDINATOR**  Project:Led team of interns in the development and deployment of *MediaWiki* automation bots for the D.O.E. department-wide wiki, *Powerpedia*. | May 2020 – Dec 2021 |

# UNIVERSITY SERVICE

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| **V.P. of VISCAL AFFAIRS AND AWARDS**  Graduate Student Organization (GSA), University of Memphis  -Primary responsibilities included the management of GSA travel funds (approx. $90,000) and fair distribution of these funds to graduate students  -Developed and organized several University events, such as the Student Research Forum, GSA Award ceremony, and Professional Development seminars | Dec 2021 – May 2023 |
| **Graduate Representative in the UofM Strategic Plan**  -Represented graduate student in the Strategic Planning committee which will be guide the Universities development from 2023 to 2028 | Sept 2022-Jan 2023 |

# PUBLICATIONS

## Journal Published

1. 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.
2. Dahal, K.; Bogue-Jimenez, B.; Doblas, A. “Global Stress Detection Framework Combining a Reduced Set of HRV Features and Random Forest Model.” *Sensors,* 23(11), 5220 (2023). https://doi.org/10.3390/s23115220.
3. B. Bogue-Jimenez, X. Huang, D. Powell, A. Doblas. “Selection of Noninvasive Features in Wrist-Based Wearable Sensors to Predict Blood Glucose Concentrations Using Machine Learning Algorithms,” *Sensors,* 22(9), 3534 (2022); https://doi.org/10.3390/s22093534.
4. C. Hayes-Rounds, B. Bogue-Jimenez, J. Ivan Garcia-Sucerquia, O. Skalli, A. Doblas. "Advantages of Fresnel biprism-based digital holographic microscopy in quantitative phase imaging," *J. Biomed. Opt.* 25(8), 086501 (2020);<https://doi.org/10.1117/1.JBO.25.8.086501>.

**Conference Publications**

1. B. Bogue-Jimenez, Raúl Castañeda, Carlos Trujillo,Ana Doblas. “Diatom Classification via Deep Learning using Raw Holograms captured by a Lenless Holographic System,” *Proc. SPIE 12903*, *AI and Optical Data Sciences* *V,* 12903-46 (31 January 2024).
2. Brian Bogue-Jimenez, Shashwat Patra, Carlos Trujillo, Ana Doblas. “Utilization of Deep Learning methods for automatic reconstruction of quantitative phase images in non-telecentric digital holographic microscopy,” *AIP Conf. Proc*. 28 September 2023; 2872 (1): 040004. https://doi.org/10.1063/5.0165449.
3. B. Bogue-Jimenez, C. Trujillo, A. Doblas. “Overview of the automatic reconstruction method for quantitative phase imaging using a digital holographic microscope operating in non-telecentric regime,” *Proc. SPIE 12389, Quantitative Phase Imaging IX*, 123890B (16 March 2023); https://doi.org/10.1117/12.2651944
4. B. Bogue-Jimenez, Shashwat Patra, Carlos Trujillo, Ana Doblas, “Utilization of Deep Learning Methods for Automatic Reconstruction of Quantitative Phase Images in Non-telecentric Digital Holographic Microscopy,” presented as oral presentation at the 11th International Conference on Mathematical Modeling in Physical Sciences, September 2022.
5. B. Bogue-Jimenez, D. Powell, X. Huang, A. Doblas, “Exploring noninvasive solutions for continuous glucose monitoring,” Proc. SPIE PC12123, Smart Biomedical and Physiological Sensor Technology XIV, PC1212307 (8 June 2022); https://doi.org/10.1117/12.2619056
6. B. Bogue-Jimenez, X. Huang, D. Powell, and A. Doblas, “Multisensory Non-invasive approach for Continuous Glucose Monitoring,” presented as oral presentation at Mid-South Biomechanics Conference, February 2022.
7. C. Hayes-Rounds, B. Bogue-Jimenez, J. Garcia-Sucerquia, O. Skalli, A. Doblas, “Assessment of a Fresnel biprism-based digital holographic microscope for fast, high-sensitivity, high-resolution and polarization-sensitive phase imaging,” *OSA Imaging and Applied Optics Congress*, paper3W5A.2(2021)
8. C. Hayes-Rounds, B. Bogue-Jimenez, O. Skalli, J. Garcia-Sucerquia, A. Doblas, "Polarization-sensitive digital holographic microscopy using a Fresnel biprism (Conference Presentation)," Proc. SPIE 11402, Three-Dimensional Imaging, Visualization, and Display 2020, 114020L (22 April 2020); https://doi.org/10.1117/12.2555106

# TEACHING AND MENTORING EXPERIENCE

EECE 3240 – Electromagnetic Field Theory

EECE 3213 – Electronics Lab

EECE 2203 – Circuits I Lab

EECE 4901/6901 – Intro to Optical Design

EECE 2207 – Engineering to Math Applications

# HONORS & AWARD

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| **The Graduate Student Association Executive Service Award**  This award recognizes GSA Executive Board members who have best combined high academic and leadership achievements. | May 2023 |
| **Dean’s List**, Herff College of Engineering, University of Memphis | Fall 2018 – Spring 2020 |
| **Cum laude**, Bachelor’s Degree, University of Memphis | May 2020 |
| **Johnetta Haley Scholarship**, Southern Illinois University at Edwardsville | Fall 2015- Spring 2017 |