KENNETH T. JOHNSON

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TECHNICAL SKILLS

Languages: C/C++
Tools: MATLAB, Ultrasound Imaging, SolidWorks, Microcontrollers, LabVIEW, Simulink
Graduate Level Classes: Systems Biology, Engineering Systems Modeling and Simulation, Cancer: From Pathology to Therapeutics Design

RELEVANT EXPERIENCE

Undergraduate Research Assistant
University of Texas at Dallas **Dallas, TX 09/2019 – 12/2020**
Undergraduate Research assistant in Dr. Kenneth Hoyt's Ultrasound Imaging and Therapy Laboratory. Assigned to assisting doctoral student with ongoing research.

- Designed and conducted experiments with ultrasound using imaging phantoms
- Participated in ultrasound in vivo imaging experiments
- Wrote a custom MATLAB program for 3D evaluation of microvascular networks using contrast-enhanced ultrasound images and microbubble tracking based on nearest neighbor searches
- Created a 3D representation of microvasculature based on centerline intensity images using MATLAB

Capstone Senior Design – Autonomous Oxygen Concentrator
University of Texas at Dallas **Dallas, TX 05/2019 – 12/2020**

- Research hypoxia diagnosis and treatments in developing countries
- Develop and document specifications list, compliance matrix, Gantt chart, test plan, risk analysis, and more.
- Conduct literature research to build a custom algorithm for the closed loop control system
- Designed parts/assemblies on SolidWorks to be 3D printed, assembled the control system, user interface and more.

Infantry Assualtman – Marine Security Guard (MSG)
U.S. Marine Corps - (Active Duty) **Worldwide 1/2011 – 1/2017**

- Oversaw and trained over 50-75 subordinates in standard operating procedures, equipment maintenance and operational plans while documenting records in compliance of Department of Defense standards
- Budgeted $15,000 for training Marines in operational duties, tracking quarterly and annual training requirements
- Developed and implemented operational plans for crisis management and emergency response scenarios

EDUCATION

Master of Science in Biomedical Engineering **January 2021 - Present**
University of Texas at Dallas, Richardson Texas

Bachelor of Science in Biomedical Engineering **December 2020**
University of Texas at Dallas, Richardson Texas

PUBLICATIONS

K. Johnson, I. Oezdemir and K. Hoyt, "Three-dimensional evaluation of microvascular networks using contrast-enhanced ultrasound and microbubble tracking," *2020 IEEE International Ultrasonics Symposium (IUS)*, Las Vegas, NV, USA, 2020, pp. 1-3, doi: 10.1109/IUS46767.2020.9251525.

Oezdemir, Ipek; Johnson, Kenneth; Mohr, Shelby; Peak, Kara; Varner, Victor; Hoyt, Kenneth, "Three-dimensional visualization and improved quantification with super-resolution ultrasound imaging - Validation framework for analysis of microvascular morphology using a chicken embryo model", *Physics in Medicine and Biology* < SUBMITTED – revisions out to reviewers >