

Basel White

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BIOMEDICAL ENGINEERING | B.S. ANTICIPATED 2022 | THE UNIVERSITY OF MAINE ORONO

- Minor in Mathematics.
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Technical Skills

- Experience in Microsoft Word, Excel, and PowerPoint.
 - Knowledge in the programming languages of Python, Java, MATLAB, R, C++, and LabView.
 - Experience in operating and programming Raspberry Pi's and Arduinos.
 - Experience in computer aided design (CAD) through AutoCAD and COMSOL Multiphysics.
 - Experience in wet-lab techniques with zebrafish embryos.
 - Experience in Python programming through the implementation of deep learning networks.
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Engineering Experience

UNDERGRADUATE RESEARCH INTERN | MACHINE LEARNING GROUP | THE JACKSON LABORATORY | JANUARY 2021-FEBRUARY 2022

- Myself and my mentor, Jim Peterson, implemented a design of an extended depth of field FIJI plugin for respective input image stacks.

UNDERGRADUATE RESEARCH INTERN | BREAST CANCER PROJECT | COMPUMAINE LABORATORY | NOVEMBER 2018-PRESENT

- Assist in patient data analysis via statistical methods of programming, data cleaning, and machine learning.
- Utilize manual masking process through the program Image J to determine what is breast tissue and what isn't
- Develop a process to automate breast tissue segmentation based on location of pectoral muscle for time efficiency, computational cost, and potential for increased accuracy.
- Compare results from manual and automated process to determine most efficient process.
- Learn TCL programming language, written in both English and French.

TEACHING ASSISTANT INTRODUCTION TO BIOMEDICAL ENGINEERING | JANUARY 2020-MAY 2021

- Assist students with programs such as Microsoft Excel, MathCAD, R and R Studio, and LabView.
- Grade student assessments for such programs.

STUDENT TUTOR | THE UNIVERSITY OF MAINE | AUGUST 2019-PRESENT

- Assist students in their understanding of the course material for various STEM courses.
 - Meet for three hours a week per student involving working on challenging topics, practice problems, etc.
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Honors

- Recipient of the Academic Year 2019-2020, 2020-2021, and 2021-2022 Maine Space Grant Consortium (MSGC) Research Fellowship.
- Recipient of 2019, 2020, and 2021 Maine Space Grant Consortium (MSGC) Summer Research Fellowship.
- Acknowledged as a Center for Undergraduate Research (CUGR) Scholar.
- Certificate of Training in Responsible Conducting of Research (RCR).
- Member of the Biomedical Engineering Club's Executive Board
- Official Member of the Biomedical Engineering Society (BMES).

- Completed and published honors thesis on “Wavelet-Based Automatic Breast Segmentation for Mammograms.”
- Co-author publication on “Differential loss of mammographic tissue homeostasis in contralateral tumorous breasts” in the Frontiers in Biomedical Engineering Magazine
- Chaplain and Health and Safety Chair of Alpha Tau Omega, a leadership development fraternity on campus, through two different terms.
- Co-Founder and Vice President of The University of Maine American Cancer Society (ACS) Chapter.
- Vice President of the Senior Skulls Honors Society on campus.
- Goldwater Scholarship university nomination.

Poster Presentations

- **White B;** Khalil A; Wavelet-Based Automatic Pectoral Muscle Segmentation from Mammograms. Poster presented at: 47th Maine Biological and Medical Sciences Symposium (Virtual); April, 2020
- **White B; Robinson E; Cox M; Benson T; Fortier L; Hutchinson K; King B;** Low-Dose Arsenic Exposure Impacts the Expression of Orthologous Breast Cancer Associated Genes in Zebrafish Embryos. Poster presented at: 47th Maine Biological and Medical Sciences Symposium (Virtual); April, 2020
- **White B;** Khalil A; Wavelet-Based Automatic Breast Segmentation from Mammograms. Poster presented at: 2020 University of Maine Student Symposium (Virtual); October, 2020
- **White B;** Khalil A; Wavelet-Based Automatic Breast Segmentation from Mammograms. Poster presented at: 2020 Biomedical Engineering Society (BMES) Virtual Annual Meeting; October, 2020
- **White B;** Khalil A; Wavelet-Based Automatic Breast Segmentation from Mammograms. Poster presented at: 2021 National Collegiate Research Conference (NCRC): January, 2021
- **White B;** Khalil A; Wavelet-Based Automatic Breast Segmentation from Mammograms. Poster presented at: 48th Maine Biological and Medical Sciences Symposium (Virtual); April, 2021
- **White B;** Khalil A; Wavelet-Based Automatic Breast Segmentation from Mammograms. Poster presented at: 2021 University of Maine Student Symposium (Virtual); March, 2021
- **White B;** Khalil A; Wavelet-Based Automatic Breast Segmentation from Mammograms. Poster presented at: 2021 Biomedical Engineering Society (BMES) Virtual Annual Meeting; October, 2021