# Eid Alkhaldi, Ph.D.

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(Last updated December 10, 2023.)

## Basic Info


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: 00966508336583


- A passionate and dedicated AI researcher with a strong background in artificial intelligence. With over 10 years of experience in academia, I have had the privilege of working at the intersection of cutting-edge technology and innovative pedagogy. My academic journey, including a Ph.D. in Electrical Engineering, has equipped me with a deep understanding of machine learning, deep learning, and generative AI.

## Institutions

2017--2022 | **Ph.D. in Engineering**
*University of Toledo, Toledo, Ohio, USA* Focusing on medical image processing, Artificial Inteligence and Deep Learning. Advisor: Dr. Ezzatollah Salari.

**Dissertation Title:** ***Ensemble Optimization for Histological Image Classification***

2015--2017 | **M.S. in Electrical Engineering**
*University of Toledo, Toledo, Ohio, USA*

2014 | **B.S. in Electrical Engineering**
*Oklahoma State University, College of Engineering, Architecture and Technology* Stillwater, Oklahoma, USA

## Publications

2022 | **Ensemble Optimization for Histological Image Classification**
*Dissertation, University of Toledo* Committee: Dr. Ezzatollah Salari, Dr. Kim, Junghwan,, Eddie Y. Chou, Ph.D., P.E., Dr. Richard G. Molyet.

Dec 2022 | **E. Alkhaldi and E. Salari, ``Ensemble Optimization for Invasive Ductal Carcinoma (IDC) Classification Using Differential Cartesian Genetic Programming,'' in IEEE Access, vol. 10, pp. 128790-128799, 2022, doi: 10.1109/ACCESS.2022.3228176.**
***IEEE Access*** PDF *https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=arnumber=9978635*

2022 | **Alkhaldi, E. & Salari, E. ``Ensemble Optimization Using Clonal Selection Algorithm for Breast Cancer Histology Image Classification''**
*International Journal of Computer Science and Technology (IJCST) Vol. 13, Issue 4, Oct - Dec 2022* PDF *https://www.ijcst.com/vol12/issue1/3-eid-alkhaldi.pdf*

2021 | **Alkhaldi, E. & Salari, E. ``Adaptive PSO-Based Ensemble Optimization for Histology Image Classification''**
*International Journal of Computer Science and Technology (IJCST), Vol 12, Issue 1, Version Jan-March 2021.* PDF *https://www.ijcst.com/vol12/issue1/3-eid-alkhaldi.pdf*

2019 | **Alkhaldi, E. & Salari, E. ``Genetically Optimized Heterogeneous Ensemble for Histological Image Classification''**
*International Journal of Science and Engineering Investigations (IJSEI), 8(95), 113-118.* PDF *http://www.ijsei.com/papers/ijsei-89519-16.pdf*

In Progress | **Alkhaldi, E. & Alrwili M. ``AI-based efficient resources allocation for d2d 5G-Networks''**

## Presentations

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|---|---|
| Dec 2022 | **PhD Dissertation Defense**<br>*``Ensemble Optimization for Histological Image Classification''* |
| April 2022 | **PhD Proposal Defense**<br>*``Ensemble Optimization for Histological Image Classification''* |
| Oct 2021 | **Optimized PhD Workflow Tutorial for UT grad students**<br>*``LaTex, BibTex, Mendeley and Emacs workflow for writing PhD dissertations''* |

## Licenses & Certifications

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|---|---|
| 2018 | **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization And Optimization** WWW<br>*Coursera, issued March 2018* |
| 2018 | **Neural Networks and Deep Learning** WWW<br>*Coursera, issued February 2018* |

## Languages

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|---|---|
| Human | Arabic, English |
| Machine | Python, Matlab/GNU Octave, bash/shell, C, C++ , markup languages including LaTeX / XeTeX, R Markdown, basic HTML. |
| Deep Learning | PyTorch, TensorFlow, Keras, Fastai and Sikit-Learn |
| Other Tools | **OpenCV, MATLAB, DEAP (Genetic optimization framamework) , Linux**<br>*Excel, MS office* |

## Research Interests

- Artificial Intelligence and STEM education
- Digital Image Processing, Signal Processing and Communication Systems
- Applications of Artificial Intelligence in Medical images, healthcare systems, Cybersecurity and Finance
- Machine Learning, Deep Learning, Data Science and Big Data
- Hyperparameter Tuning, Non-convex Optimiation, Numerical Methods and Biologically Inspired Computing

## Public Code and Scripts

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|---|---|
| Published | **Histology Image Classification models for ICIAR and IDC**<br>*Various pretrained models for breast cancer detection in histology images. Achieved 88% accuracy on the ICIAR WWW dataset* |
| Published | **PhD Emacs**<br>*Rich-featured and minimal Emacs configuration ideal for researchers and grad students* |

## Engineering Projects

- UC Davis NATCAR Design Contest (Oklahoma State University 2014 team).

  - Responsibilities: ...
    * Microprocessor and interface with other blocks of the system
    * Design the power circuit for the whole system
    * Choosing the best value Battery that meet the project specs
    * The servo control software

## Volunteering and Extracurricular activities

- MSA vice president (2011-2012)
- SSA member (2007 – 2012)

## References

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