Name: Omar Kittaneh

Address: Effat University

Phone: 7866

Cell: 00 966 502956088

Email: okitanneh@effatuniversity.edu.sa and omar_kittaneh@yahoo.com

EDUCATION

PhD. In Statistics, 3.8 /4 **2004-2008**

University of Jordan, Department of Mathematics and Statistics.

Dissertation: "Efficiency of Censored Samples Based on Entropy Measures".

Supervisor: Prof. Adnan M. Awad.

MSc. In Mathematics, 86.7% **2000 - 2003**

Al-Yarmouk University/Jordan, Department of Mathematics.

Thesis: "Properties of SL(2,R) the Special linear group".

Supervisor: Prof. Mohammad Younis.

Micro-Master Statistics and Data Science **2021-present**

I am currently participating in an intensive online Data Science program provided by MIT. The program consists of four online courses and a virtually proctored capstone exam. It aims to equip learners with the fundamental knowledge necessary for comprehending the techniques and tools employed in data science, as well as practical experience in data analysis and machine learning. My anticipated completion date for the program is June 2024.

Course Completed	Level	Grade
Probability-The Science of Uncertainty and Data	Grad	94
Introduction to Computer Science and Programming Using Python	Under Grad	94
Fundamentals of Statistics	Grad	96

Machine Learning with Python-From Linear Models to Deep Learning	Grad	81
Data Analysis: Statistical Modeling and Computation in Applications	Grad	94

BSc. In Mathematics, 83% **1996 -2000**

Al-Yarmouk University/Jordan. Department of Mathematics**.**

TEACHING EXPERIENCE

I have taught and developed many undergraduate and graduate courses in Statistics and Mathematics including but not limited to Fundamental statistics, Inferential Statistics, Probability Theory, Statistics for Engineering, Statistics for Computing, Actuarial Mathematics, Advanced Mathematics for Engineering, Discrete Mathematics, and Bio-Statistics. I follow the highest standards in delivering, assessing and developing my courses. Below is the timeline of my teaching experience.

- Effat University, KSA, Associate Professor and Director of Natural Sciences, Math, and Tech Unit. **Sep. 2018- Present**
- Effat University, KSA, Assistant Professor at the Electrical and Computer Engineering Department. **Sep. 2011- Aug. 2018**
- University of Tabuk, KSA, Assistant Professor at the Department of Mathematics and Statistics. **Sep. 2010 – June 2011**
- Petra University, Jordan, Assistant Professor at the Basic Sciences Department. **Sep. 2008 – June 2010**

RESEARCH EXPERIENCE

I have long research experience in theoretical and applied statistics and mathematics. I started doing research in 2012 with proposing some theoretical papers, and I found their applications later. I suggested some new definitions in statistics such as the efficiency function of censored samples and the average entropy. I applied my theories and other existing theories to several real applications such as the lifetime of light emitting and organic light emitting diodes, batteries, and solar cells. I proposed some new solutions to the thresholding problem in image segmentations. Recently, I have conducted a detailed review on machine learning algorithms and their relationships with optimization problems. Currently, I am collaborating with some of my colleagues on developing a new statistical model and machine learning algorithms to describe the life of light emitting diodes, in addition to some interesting theoretical results on goodness of fit testing.

PUBLICATIONS

Journal Publications:

[1] Stopping criterion for anisotropic image diffusion (2016). Optik-International Journal for Light and Electron Optics 127 (1), 156-160, Elsevier.
[2] Average Entropy: A New Uncertainty Measure with Application to Image Segmentation (2016). The American Statistician 70(1), 18-24, Taylor & Francis, American Statistical Association.
[3] A measure of discrimination between two double truncated distributions (2015). Communications in Statistics – Theory and Methods 44(9), 1797- 1805, Taylor & Francis.
[4] Deriving the efficiency function for type I censored sample from Pareto distribution using sup-entropy (2014). IMA Journal of Mathematical Control and Information 33(2)231-237, Oxford University Press.
[5] Efficiency Estimation of Type-I Censored Sample from Weibull Distribution Based on Sup-entropy (2017). Communications in Statistics-Simulation and Computation 46(4) 2678-2688, Taylor & Francis.
[6] Stopping Criterion for Linear Anisotropic Image Diffusion: A Fingerprint Image Enhancement Case (2016), EURASIP Journal on Image and Video Processing 6, 1-20, Springer.
[7] Accretion of Phantom Energy by Bardeen Black Hole (2014). International Journal of Theoretical Physics 53(6), 1953-1960, Springer.
[8] Efficiency of censored samples from exponential distribution based on sup-entropy (2012). Journal of Statistics 19(1), 43-53.
[9] Testing the Equality of Two Exponential Distributions (2016). Communications in Statistics-Simulation and Computation 45(7) 2249-2256, Taylor & Francis.
[10] Efficient solution for finding Hamilton cycles in undirected graphs (2016). Springer plus 5(1), Springer.
[11] Response to Average Entropy Does Not Measure Uncertainty (2017). The American Statistician 71(1), 91- 91, Taylor & Francis, American Statistical Association.
[12] Deriving scale normalization factors for a GLoG detector (2018). IET Image Processing 12(9), 1673 – 1682, IET.
[13] Estimating the Income Distribution of Some Islamic Countries Based on Entropy Measures (2019). JKAU: Islamic Economics., 32(1),159-169.
[14] Comparison of two-lifetime models of solid-state lighting based on sup-entropy (2019). Heliyon 5(10), Elsevier.
[15] The conditional average entropies (2020). Communications in Statistics – Theory and Methods, 1- 8, Taylor & Francis.
[16] On efficiency of censored samples (2021). IMA Journal of Mathematical Control and Information, Oxford University Press, 38(2), 743-753.
[17] An Overview of Machine Learning-Based Techniques for Solving Optimization Problems in Communications and Signal Processing (2021). IEEE Access, 9, 74908 – 74938.
[18] Preferable Parametric Model for the Lifetime of the Organic Light-Emitting Diode Under Accelerated Current Stress Tests (2021). IEEE Transactions on Electron Devices, 68(9), 4478-4484.
[19] Choosing the Best Lifetime Model for Commercial Lithium-Ion Batteries (2021). Journal of Energy Storage, 41, 102827.
[20] A Comparative Study Between Lognormal and Weibull Distributions in Modeling Commercial Concentrator III–V Triple-Junction Solar Cells Lifetimes (2022), International Journal of Renewable Energy Research (IJRER) 12 (1), 547-556
[21] On the inverse power law-normal model for life prediction of organic light emitting diodes (2023). Quality and Reliability Engineering International 39 (7), 2677-2685, Wily
[22] The variance entropy multi-level thresholding method (2023), Multimedia Tools and Applications, 1-13, Springer

Book Chapters:

[1] Powerful Mathematica Codes for Testing Censored Data, (Accepted) and will appear soon as a chapter in the book "Handbook of Smart Energy Systems", Springer Nature 2022, which is edited by Professors: Mahdi Fathi, Enrico Zio and Panos M. Pardalos from University of Florida.

Conference Publications:

[1] An efficient censoring scheme for lifetime of connected solid-state lighting based on entropy measures, 14th Learning and Technology Conference, IEEE (2018), Jeddah, KSA.
[2] Estimating the Lifetime Model for The Commercial Concentrator III–V Triple-Junction Solar Cells Using the Lognormal Distribution, IEEE 6th Asia Conference on Power and Electrical Engineering (2021), Chongqing, China.
[3] The Generalized Average Entropy with Applications to some Satellite Image Thresholding, 19th Learning and Technology Conference (2022), Jeddah, KSA.
[4] The Effects of Electrode Physical Parameters on the Statistical Life Models of Li-Ion Battery, International IOT, Electronics and Mechatronics Conference sponsored by IEEE, (2021) Vancouver & Toronto, Canada.

Papers Under Processing:

[1] A Comparison between Statistical Modeling and Machine Learning Approaches in Predicting the Lifespan of Organic Light-Emitting Diodes. Is going to be submitted soon to IEEE Transactions on Industrial Electronics.
[2] Comparing Pecks and Intel life-stress relationships using statistical modelling and machine learning techniques. Is going to be submitted to IEEE Transactions on Electron Devices.

PRESENTATIONS

[1] An efficient censoring scheme for lifetime of connected solid-state lighting based on entropy measures, 14th Learning and Technology Conference, IEEE (2018), Jeddah, KSA.
[2] On Income Distribution, The 3rd Islamic Finance Conference (2017), Jeddah, KSA.
[3] Course learning outcomes assessment best practice (2022), Effat University, Jeddah KSA.

GRANTS AND FELLOWSHIPS

[1] Fulbright scholarship for the MSc from Al-Yarmouk University/Jordan, 2000-2003.
[2] Fulbright scholarship for my PhD from the University of Jordan, 2004-2008.
[3] Internal grant from Effat University, 2014.
[4] Publication grant from KAU 2016.
[5] Publication grant from KACST 2019.

AWARDS AND HONORS

[1] The winner of Queen Effat Award of Excellence in Research for the year 2015-2016.

[2] The winner of Queen Effat Award of Excellence in Teaching at the College of Engineering-Effat University for the year 2019-2020.

THESIS SUPERVISIONS

I have co-supervised the following master's theses with majors in energy engineering at the master of energy engineering, Effat University, Saudi Arabia.

- Salwa Ammash, Lifetime Model of Solar Cells Based on Statistical Reliability Analysis. Master of Energy Engineering Program, Effat University, Saudi Arabia. From October 2020 to June 2021. The student published high quality journal and conference papers.
- Talal Ali Mouais, Predicting the Lifetime of Batteries Using Some Probabilistic Models. Master of Energy Engineering Program, Effat University, Saudi Arabia. From October 2020 to June 2021. The student published two high quality journal and conference papers.
- Donia Dannah, A comparison study between inverse power law and Arrhenius models in predicting the lifetime of photovoltaic under nominal conditions. October 2021- October 202. The student published one high quality journal paper.

ADMINISTRATIVE POSITIONS and OTHERS

Position	Year
University Council Member	**2016-2018**
College Council Member	**2018 – Present**
Research Council Member	**2018-2021**
Research Ethics Committee	**2011 -2016**
Institutional Promotion Committee Member	**2020-2022**
The Vice Chair of the electrical and computer engineering Department	**2015-2017**
The chair of the natural sciences, mathematics and technology unit	**2018-Present**
The director of center in excellence in teaching and learning	**2022-Present**

RELEVANT SKILLS

- Mathematica, professional.
- Mat lab, professional.
- SPSS, professional.
- Python, professional.

REFERENCES

- Prof. Adnan M. Awad / Department of Mathematics and Statistics, University of Jordan. awada@ju.edu.jo
- Prof. Fuad Kittaneh / Department of Mathematics and Statistics, University of Jordan. fkitt@ju.edu.jo
- Prof. Mohamed Mousa / Natural Sciences, Mathematics and Technology Unit, Effat University. momousa@effatuniversity.edu.sa
- Dr. Hayssam Dahrouj / Electrical and Computer Engineering Department, KAUST. hayssam.dahrouj@gmail.com