Kamel Jebreen

Assistant Professor

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About Me

I am R&D engineer specialized in machine learning, big data problems, and graphical models (Bayesian networks and dynamic Bayesian networks) for classification, and time series data.

Social Network

Personal website

Linkeddin

Github

Languages

- Arabic ●●●●●
- English ●●●●●
- French ●●●○○

Soft Skills

- R ●●●●
- Python ●●●●
- MATLAB ●●●●
- SQL ●●●●
- C++ ●●●○
- C ●●●○
- Linux ●●●○

Working Experience

08/2022 – present
Assistant Professor:
Palestine Technical University, Hebron, Palestine

Teaching and Research: Sample Theory, Time series, scientific Resaerch, Statistics in Management, General Mathematics, and Statistics with SPSS.

12/2019 – present
Senior Research And Development Engineer:
Unit of Clinical Research (URC) AP-HP, University of Paris

Research: Biomedical research as well as the evaluation of the medical device at the Clinical Research Unit (Algorithmics, data scientist, machine learning on Biomedical Big data).

Teaching: Teach various courses like Clinical trial, Public Health, Biostatistics, Bayesian statistics, Linear Algebra, Probability Theory, Mathematical Statistics, Linear Regression, Analysis of Covariance, Sample Theory.

02/2018 –10/2019
Research And Development Engineer:
INRA - Paris Saclay University

Algorithmics, data scientist and softwares for leveraging genotyping technologies with application on genetics data (SNPs and GBS).

1. Using data from genotyping arrays (mainly 50 K SNP) on segregating populations to infer which markers are involved in genomic structural variations. This work is published and the R package available online.
2. Calculating the probabilities of all possible multi-locus genotypes arising in recombinant inbred lines of the « SIB » type. This had never been done for more than 3 loci. This work is published and the code available online.

09/2014 – 10/2017
Doctoral Mission in Statistics (Machine learning And Big Data):
Aix Marseille University

1. We combine such approaches together with feature selection and discretisation to show that such a combination gives rise to powerful classifiers using Bayesian networks. The application to Epilepsy type prediction based on PET scan data.
2. We performed Modelling interaction networks between a set of variables in the context of time series and high dimension. fMRI and simulated data was used to present the results.

07/2011 –09/2014
Statistician:
Office of Attorney General (Public Prosecution)

Analyzing data, preparing annual and quarterly studies and reports on criminal data, making and evaluating the strategic plans.

2011 – 2014
Lecturer (Part-Time):
Al-Quds Open University

Teach various courses: Linear Algebra, Statistics, Differential Equation, Real Analysis, Numerical Analysis, Discrete Mathematics, set theory, Probability Theory, and Mathematical Statistics.

Professional Skills

DATA SCIENCE	**Description:** **Supervised learning** for regressions and classification (KNN, CART, Random Forest, Bagging, Stacking, SVM, Bayesian networks, graphical models, linear and logistic regression, data visualization (feature selection, discretization, PCA)) and **Unsupervised learning** (clustering (K-means, CART) and interfere dynamic interaction and casual networks).
MATHEMATICS	**Description:** Theory of machine learning, the theory of applied statics and measure probability theory, and numerical analysis.
BIG DATA	**Description** Manipulate high dimensional data with nonparametric approaches (LASSO, Random Forest and SVM)to perform high accuracy in regression, classification or interfering the intercalation and casual networks.
Computer Languages	**Description:** R, Python, MATLAB, SQL, C, and C++.

Education

2014 – 2017	**PhD in Statistics (Machine learning and Big data):** Aix Marseille University **Topic:** Graphical Models for classification and time series.
2009 – 2010	**Master of Applied Mathematics:** Palestine Polytechnic University **Topic:** Mathematical theories on the boundary layer equation with physical boundary conditions.
2005 – 2009	**Bachelor of Applied Mathematics:** Palestine Polytechnic University **Topic:** Finite element and finite difference for solving the boundary value problems.

Publications

2023	**M-Polynomials for the Triangular oxide TOX(r), Regular triangular oxide RTOX(r), Triangular silicate TSL(r) & Regular triangular silicate RTSL(r) network** *Hijaz Ahmad, Muhammad Rafaqat, Muhammad Haroon Aftab,Walid Emam, Kamel Jebreen, Hassan Kanj* European Journal of Pure and Applied Mathematics Article
2023	**Topological Characterization of Hexagonal Network and Non-Kekulean Benzenoid Hydrocarbon** *Hassan Kanj, Hifza Iqbal, Muhammad Haroon Aftab, Hasnain Raza, Kamel Jebreen and Mohammed Issa Sowaity* European Journal of Pure and Applied Mathematics Article
2023	**Topological Aspects Investigated from M-Polynomial of α-Sheet of Boron Clusters** *Kamel Jebreen, Muhammad Haroon Aftabd, Iftikhar Ali, Mohammed Issa Sowaity and Hassan Kanj* European Chemical Bulletin
2023	**Consolidated Extremal Combinatorics Results among the Class of Degree- Based Graphs to Zagreb Indices with the Given Diamete** *Kamel Jebreen, Muhammad Haroon Aftabd, Zahid Hussain, Muhammad Nasir Tufail, Mohammed Issa Sowaity, Hassan Kanj* European Chemical Bulletin
2023	**Topological effects of chiral pamam dendrimer for the treatment of cancer** *Iftikhar Ali, Muhammad Haroon Aftab, Muhammad Waheed Raheed, Kamel Jebreen, Hassan Kanj* Transylvanian Review

2023 **Study of Eccentricity Based Topological Indices for Benzenoid Structure**
Iyad Ali, Ahmad Khalil, Alaa Daibes, Khaled Qushair, Ahmed Al-Sabi, Muhammad Yasser Alsedfy, Hassan Kanj, Mahmoud Abuissa, Kamel Jebreen
Pal. Med. Pharm. J.

2023 **Knowledge, attitudes, and practices of Palestinian students toward COVID-19: Across sectional study during the first wave of the COVID-19 pandemic**
Eqbal Radwan, Etimad Alattar, Afnan Radwan, Walaa Radwan, Mohammed Alajez, Digvijay Pandey, Kamel Jebreen
Springer Nature (accepted)

2023 **Palestine and the COVID-19 vaccine infodemic on social media (chapter contribution "Communicating COVID-19: International Experiences and Insights")**
Kamel Jebree, Omar Shamsti, Eqbal Radwan
School of Humanities, Languages & Social Science Griffith University

2023 **On The Extremal Characterization of Graphs Under Transformation facts over pendent paths Using Atom Bond Connectivity index**
Kamel Jebree, Muhammad Haroon Aftab, Mohammed Issa Sowaity, Amjad Barham
Discrete Dynamics in Nature and Society (submitted)

2023 **Approximation Study on Multi Graph Invariants for Porous**
Kamel Jebree, Muhammad Haroon Aftab, Mohammed Issa Sowaity, Amjad Barham
Discrete Dynamics in Nature and Society (submitted)

2022 **Eccentric Harmonic Index for the Cartesian Product of Graphs**
Kamel Jebreen, Muhammad Haroon Aftab, Mohammad Issa Sowaity, et al
Journal of Mathematics

2022 **An Approximation for the Entropy Measuring in the General Structure of** $SGSP_3$
Kamel Jebreen, Muhammad Haroon Aftab, Mohammad Issa Sowaity, et al
Computers, Materials and Continua

2022 **Analysis of Eigenvalues for Molecular Structures**
Muhammad Haroon Aftab, Kamel Jebreen, et all Jebreen
omputers, Materials and Continua

2021 **Inferring linear and nonlinear Dynamical Causal networks using support vector machines.**
Jebreen. K and Ghattas. B
ICEET Conference, Istanbul, Turkey,

2020 **Steroids with Anti-IL1 Anakinra Rescue in Severe Non-ICU COVID-19 Infection : a Cohort Study by Professor Gerard ZALCMAN The Lancet Rheumatology.**
Borie R; Laurent Savale L ; Dossier A ; Ghosn J ; Taill e C ; Visseaux B; Jebreen K, et al.
Medicine

2019 **Probabilities of multilocus genotypes in SIB recombinant inbred lines.**
Jebreen, K, Petrizzelli, M, and Martin, O. C
Frontiers in Genetics

2019 **CNVmap : a method and software to detect copy number variants from linkage mapping data**
Falque, M., Jebreen, K., Paux, E., Knaak, C., Mezmouk, S., and Martin, O.C
Genetics

2017 **Bayesian Network Classification : Application to Epilepsy Type Prediction Using PET Scan Data**
Jebreen. K and Ghattas. B
ICMLA, CA, USA

2017 **Modèles graphiques pour la classification et les séries temporelles**
Jebreen. K
Aix-Marseilles University

Conferences

2021 **International Conference on Engineering and Emerging Technologies (ICEET)**
Istanbul, Turkey

2016 **International Conference on Machine Learning and Applications (ICMLA)**
CA, USA

Projects

2022 – now **The association between sociodemographic characteristics and oral cancer awareness among the Palestinian population** — France
Research

2022 – now **Research Methods and Ethics on Good Health Research Practice** — Tunis - Palestine
Capacity Building

2021 – now **Automatic Deepwater Amphorae Detection Using Semi-Supervised Deep Learning** — France
Master thesis

2019–2020 **Glucocorticoids with low-dose anti-IL1 anakinra rescue in severe non-ICU COVID-19 infection** — France
Research

2018 – 2019 **Detect and Map Copy Number Variants from Segregation Data** — France
Research

2018 – 2019 **Probabilities of Multilocus Genotypes in SIB Recombinant Inbred Lines** — France
Research

Awards

2009 – 2017	PhD fellowship	France
2009 – 2011	Master fellowship	UPA
2005–2009	Bachelor fellowship	Ministry of Education

Courses Teaching

2022 – now	Statistics in management	Undergraduate course
2022 – now	Introduction to Econometrics with R	Undergraduate course
2021 – now	Biostatistics with R	Graduate course
2018 – now	Data science with Python	Graduate course
2018 – now	Statistical Genetics	Graduate course
2014 – now	Machine Learning	Graduate course
2011 – now	Linear Algebra	Graduate course
2011 – now	Mathematical Statistic	Graduate course
2011 – now	Numerical Analysis	Graduate course
2011 – now	Differential Equations	Graduate course
2011 – now	Probability Theory	Graduate course
2011 – now	Applied Linear Regression	Graduate course
2011 – now	Analysis of Covariance	Graduate course
2011 – now	Real Analysis	Graduate course
2011 – now	SPSS Software	Graduate course

Training Leadership

2023 **Develop scientific research skills**
An-Najah National University, Palestine

2023 **Data Management using SAS**
Higher education association, Palestine

2022 **Data science**
An-Najah National University, Palestine

2022 **Developing the scientific research capabilities of postgraduate students**
Gaza University, Palestine

2021 **Communication and Connection skills**
Higher education association, Palestine

2021 **Scientific research methodologies**
Higher education association, Palestine

2019 **Project Management**
Higher education association, Palestine

2019 **Mathematics from pure to application**
Higher education association, Palestine

2018 **Gender factors**
Higher education association, Palestine

2018 **Data Management using SQL**
Higher education association, Palestine

2018 **Application of Machine Learning on real life**
Higher education association, Palestine

2017 **Management of Personnel Affairs**
Higher education association, Palestine

2017 **Statistical analysis using R**
Higher education association, Palestine

2017 **Statistical analysis using SPSS**
Higher education association, Palestine

Memberships

2022 – now **Palestine Young Academy**
Palestine

2019 – now **Scientist for Palestine**
Palestine

2019 – now **Organization for Women in Science for the Developing World, member.**
Palestine

Curriculum Development Experience

2021 **Curriculum development expert for data science Programme at An - Najah National University**
Palestine

2020 **Curriculum development expert for the Research Methodology Programme at Higher education association**
Palestine