



Kamel Jebreen

Research Engineer

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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

LinkedIn

GitHub

Languages

Arabic	●●●●●
English	●●●●●
French	●●●●●

Soft Skills

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

Working Experience

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

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

- Submitted 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 ; Taille 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., Mezrouk, S., and Martin, O.C
 Genetics
- 2017 **Inferring linear and nonlinear Dynamical Causal networks using support vector machines.**
Jebreen. K and Ghattas. B
 arXiv,
- 2017 **Bayesian Network Classification : Application to Epilepsy Type Prediction Using PET Scan Data**
Jebreen. K and Ghattas. B
 ICMLA, CA, USA

Awards

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

Courses Teaching

- 2014 – 2017 Machine Learning Graduate course
- 2011 – 2014 Linear Algebra Graduate course
- 2011 – 2014 Mathematical Statistic Graduate course
- 2011 – 2014 Numerical Analysis Graduate course
- 2011 – 2014 Differential Equations Graduate course
- 2011 – 2014 Probability Theory Graduate course
- 2011 – 2014 Applied Linear Regression Graduate course
- 2011 – 2014 Analysis of Covariance Graduate course
- 2011 – 2014 Real Analysis Graduate course
- 2011 – 2014 SPSS Software Graduate course