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G Google scholar page



Employment History

The American University in Cairo, Professor of Statistics, Department of Mathematics and Ac-July 2021 – · · · · tuarial Science, School of Sciences and Engineering.

04/2021 - · · · · Pan-African Scientific Research Council, Fellow member.

10/2020 - - · · · · Covidradar24.org and Rosettahub.com, Data analyst master contributor in a real time COVID-19

tracking data science platform.

World Health Organization, Tunisia Senior data analyst consultant, Measuring the impact of the 05/2020 - 05/2021 COVID 19 pandemic on psychiatric needs of the general population in Tunisia, data collected from a hot line accessible throughout the country, including those without access to Internet.

WARC, Africa, Sierra Leon Data analyst consultant, Setting up an online daily data monitoring

platform for a survey implemented in Sierra Lean.

University of Carthage, Ecole Supérieure de la Statistique et de l'Analyse de l'Information, Tunis, Tunisia

• Positions: Professor (from 2018), Associate Professor (2011-2018), Assistant Professor (2003-2011).

• Teaching: Data Analysis: Principal Component Analysis, Correspondence Analysis, and Multiple Correspondence Analysis, Theory and Practice with R, Mathematical Statistics: Statistical Inference, Hypothesis Testing, Regression Analysis, Theory and Practice with R, Data Mining and Practice with R, Bayesian Statistics with OpenBugs/Winbugs/RStan/Jags, Time Series: ARMA and SARIMA Processes, Theory and Practice with R/Python, Big Data: Large Data with R/Python, SQL, Spark, H20, Advanced R/Python: Data Management, Data Visualization, Dashboards, Shiny Apps, Heroku Apps, Bokeh.

· Research:

- Supervising 5 Ph.D.: Detection and classification of swallowing sound, Sensory Analysis, Genetics, Zoonotic cutaneous leishmaniasis incidence, Cardiovascular risk factor.
- Papers and collaborations: I had published and coauthored more than 40 scholar papers.
- Supervising Master and Engineering Thesis on several topics related to applied statistics and data science.
- Administration: Director of the Department of Statistics (2004-2007)

Yale University, Whitney and Betty MacMillan Center for International and Area Studies and the Department of Statistics and Data Science, New Haven, USA.

- Positions: Visiting Associate Professor (2014), Consulting on several projects with Yale Scholars (2015-2018), Associate Research Scholar (2019).
- Missions: Democratic Transition in Tunisia, Governance and Local Development: Implementing two face-o-face Surveys in Tunisia, G-econ team on building local GDP data, Teaching Time Series with R/Python Course.

05/2020 - 01/2021

2003 - · · · ·

2014 - 2019

Employment History (continued)

2016 - 2017

- University of Michigan, Center for Political Studies of the Institute for Social Research, Ann Arbor, USA.
 - Position: Visiting Fulbright Scholar.
 - Role: Research: Working on Data Quality, Survey Methodology, Interviewer Effect, Teaching: 4 Lectures on Applied graphical Models, 1 Lecture on Data visualization with R, 1 Lecture on Sensory Analysis.

2011 (May to July)

- **Stanford University**, Department of Statistics, Palo alto, USA.
 - **Position:** Visiting Fulbright Scholar.
 - Role: Research on Graphical Models, Faithfulness assumption, and Covariance graphs.

2002 - 2003

- **York University**, Department of Statistics, Toronto, Canada.
 - Position: Visiting Assistant Professor,
 - **Teaching:** Applied Regression Models with SAS, Introduction to the theory of probability, Introduction to Statistics with Minitab,
 - Research: Monte Carlo Methods and Bayesian Estimation of the Graphical Models.

1998 - 2002

- University of Sousse, Institut Préparatoire aux Ecoles d'Ingénieurs, Sousse, Tunis.
 - Teaching: Analysis, Calculus, Algebra
 - Research: Natural Exponential Families, Pick functions, Markov Chains
 - Administration: Director of the Department of Mathematics

Education

Sept 2009

Habilitation (*Tenure*), Université de Tunis El Manar Ecole National d'Ingénieurs de Tunis, Tunisia. Thesis title: *Problèmes autour de la probabilité et de la statistique: Méthodes et Applications.*

Dissertation: https://malouche.github.io/myCV/reports.html

October 1997

Doctorate, (*Ph.D.*), **Paul Sabatier University**, Toulouse, France.

Thesis title: Classification des familles exponentielles associées à des fonctions Pick.

Dissertation: https://malouche.github.io/myCV/reports.html

1993–1994 Master's Degree (D.E.A), Paul Sabatier University, Applied Mathematics.

1989 – 1993 **Bachelor (Maîtrise)**, Ecole Normale Supérieure de Bizerte, Tunisia.

Skills

Languages

- Strong reading, writing and speaking competencies for English, French, and Arabic.
- Coding Python, R, TABLEAU, SPARK, H2O, Shiny, LTEX, ...
 - Misc. Quantitative research, Project management, Qualitative research, Data Mining, Machine Learning, Big Data, Academic research, Teaching, training, consultation, LTFX typesetting and publishing.

Papers

Research interests: Graphical models, Public health, COVID-19, Research and development, Well being, Survey methodology, Data quality, Consumer preferences, Genetics.

Research papers

- Malouche, D. (2021c). Implication of faithfulness assumption. Sankhyā B: The Indian Journal of Statistics. Retrieved from https://doi.org/10.1007/s13571-021-00271-0
- Saidi, O., Malouche, D., Saksena, P., Arfaoui, L., Talmoudi, K., Hchaichi, A., ... Ben Alaya, N. (2020). Impact of contact tracing, respect of isolation and lockdown in reducing the number of cases infected with covid-19: Case study: Tunisia's response from march 22 to 04 may 2020. *International Journal of Infectious Diseases*. Retrieved from https://doi.org/10.1016/j.ijid.2021.02.010
- Kongbonga, G. Y. M., Hassine, K. B., Ghalila, H., Malouche, D. et al. (2019). Front-face fluorescence using uv-led coupled to usb spectrometer to discriminate between virgin olive oil from two cultivars. *Food and Nutrition Sciences*, 10(02), 119. Retrieved from 6 http://www.scirp.org/journal/PaperInformation.aspx?PaperID=90405&#abstract
- Mekki, I., Malouche, D., Smeti, S., Hajji, H., Mahouachi, M., M, E., & Atti, N. (2019). Study of the breeding systems of sheeps in the montagnous area of north-western tunisia. *Livestock Research for Rural Development*, 31(108). Retrieved from 6 http://www.lrrd.org/lrrd31/7/ilyes31108.html
- Saidi, O., Hajjem, S., Zoghlami, N., Aounallah-Skhiri, H., Mansour, N. B., Hsairi, M., ... O'Flaherty, M. et al. (2019). Premature mortality attributable to smoking among tunisian men in 2009. *Tobacco induced diseases*, 17. Retrieved from https://dx.doi.org/10.18332%2Ftid%2F112666
- Saidi, O., O'Flaherty, M., Zoghlami, N., Malouche, D., Capewell, S., Critchley, J. A., ... Guzman Castillo, M. (2019). Comparing strategies to prevent stroke and ischemic heart disease in the tunisian population: Markov modeling approach using a comprehensive sensitivity analysis algorithm. Computational and mathematical methods in medicine, 2019. Retrieved from 6 https://doi.org/10.1155/2019/2123079
- Saidi, O., Zoghlami, N., Bennett, K. E., Mosquera, P. A., Malouche, D., Capewell, S., ... O'Flaherty, M. (2019). Explaining income-related inequalities in cardiovascular risk factors in tunisian adults during the last decade: Comparison of sensitivity analysis of logistic regression and wagstaff decomposition analysis. *International journal for equity in health*, 18(1), 177. Retrieved from 6 https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-019-1047-6
- Salem, S., Malouche, D., & Romdhane, H. B. (2019). Tunisian population quality of life: A general analysis using sf-36. Eastern Mediterranean Health Journal, 25(9). Retrieved from

 https://apps.who.int/iris/bitstream/handle/10665/333459/10203397192509-eng.pdf#page=23
- 9 Khlaifi, H., Istrate, D., Demongeot, J., & Malouche, D. (2018). Swallowing sound recognition at home using gmm. *IRBM*, 39(6), 407–412. JETSAN. Odoi:https://doi.org/10.1016/j.irbm.2018.10.009
- Benstead, L. J., Kao, K., Landry, P. F., Lust, E. M., & Malouche, D. (2017). Using tablet computers to implement surveys in challenging environments. *Survey Practice*, 10(2), 1–9. Retrieved from 6 https://doi.org/10.29115/SP-2017-0009
- Khouloud, T., Hedia, B., Nissaf, B.-A., Marc, S., Dhafer, M., & Kouni, C. M. (2017). Comparative performance analysis for generalized additive and generalized linear modeling in epidemiology. *International Journal of Advanced Computer Science and Applications*, 8(12). Odi:10.14569/IJACSA.2017.081255
- Rebhi, I., & Malouche, D. (2017a). An approach for external preference mapping improvement by denoising consumer rating data. *International Journal of Advanced Computer science and Applications*, 8(12), 500–508. Retrieved from https://doi.org/10.14569/IJACSA.2017.081266
- Rebhi, I., & Malouche, D. (2017b). Decision making about products development through consumer preferences modeling based on descriptive characteristics of products. *IEEE/ACS 14th International Conference on Computer Systems and Applications (AICCSA)*, 423–430. Retrieved from 6 https://doi.org/10.1109/AICCSA.2017.202
- Talmoudi, K., Bellali, H., Ben-Alaya, N., Saez, M., Malouche, D., & Chahed, M. K. (2017). Modeling zoonotic cutaneous leishmaniasis incidence in central tunisia from 2009-2015: Forecasting models using climate variables as predictors. *PLoS neglected tropical diseases*, 11(8), e0005844. Retrieved from 6 https://doi.org/10.1371/journal.pntd.0005844
- Triki, H. Z., Laabir, M., Lafabrie, C., Malouche, D., Bancon-Montigny, C., Gonzalez, C., ... Daly-Yahia, O. K. (2017). Do the levels of industrial pollutants influence the distribution and abundance of dinoflagellate cysts in the

- recently-deposited sediment of a mediterranean coastal ecosystem? *Science of the Total Environment*, *595*, 380–392. Retrieved from *https://doi.org/10.1016/j.scitotenv.2017.03.183*
- Aouinti, S., Giudicelli, V., Duroux, P., Malouche, D., Kossida, S., & Lefranc, M.-P. (2016). Imgt/statclonotype for pairwise evaluation and visualization of ngs ig and tr imgt clonotype (aa) diversity or expression from imgt/highv-quest. *Frontiers in immunology*, 7, 339. Retrieved from 6 https://doi.org/10.3389/fimmu.2016.00339
- Aouinti, S., Malouche, D., Giudicelli, V., Kossida, S., & Lefranc, M.-P. (2016). Correction: Imgt/highv-quest statistical significance of imgt clonotype (aa) diversity per gene for standardized comparisons of next generation sequencing immunoprofiles of immunoglobulins and t cell receptors. *PloS one*, 11(1), e0146702. Retrieved from https://doi.org/10.1371/journal.pone.0146702
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- Saidi, O., Malouche, D., O'Flaherty, M., Mansour, N. B., Skhiri, H., Romdhane, H. B., & Bezdah, L. (2016). Assessment of cardiovascular risk in tunisia: Applying the framingham risk score to national survey data. *BMJ open*, 6(11), e009195.

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- Selmi, G., Azouz, Z. B., & Malouche, D. (2015). The volume radius function: A new descriptor for the segmentation of volumetric medical images. 2015 International Conference on Image and Vision Computing New Zealand (IVCNZ), 1–6.

 Odi:10.1109/IVCNZ.2015.7761572
- Aouinti, S., Malouche, D., Giudicelli, V., Kossida, S., & Lefranc, M.-P. (2015). Imgt/highv-quest statistical significance of imgt clonotype (aa) diversity per gene for standardized comparisons of next generation sequencing immunoprofiles of immunoglobulins and t cell receptors. *PLoS One*, 10(11), e0142353. Retrieved from https://pubmed.ncbi.nlm.nih.gov/26540440/
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- Karaoud, M., Malouche, D., & Alaya, N. B. (2014). Mortalité et température journalière en tunisie: Une étude multi-région. *Revue d'Épidémiologie et de Santé Publique*, 62, S218. Retrieved from 6 https://www.em-consulte.com/article/915651/article/mortalite-et-temperature-journaliere-en-tunisie%C2%A0-u
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- lagoon (mediterranean coast, tunisia). *Marine pollution bulletin*, 84(1-2), 172–181. Retrieved from 6 https://doi.org/10.1016/j.marpolbul.2014.05.014
- Aouinti, S., Mallek, H., Malouche, D., Saidi, O., Lassouedi, O., Hentati, F., & Romdhane, H. B. (2013). Graphical interaction models to extract predictive risk factors of the cost of managing stroke in tunisia. 2013 International Conference on Computer Medical Applications (ICCMA), 1–6. Retrieved from 6 https://ieeexplore.ieee.org/document/6506162
- Ben-Hassine, K., Taamalli, A., Ferchichi, S., Mlaouah, A., Benincasa, C., Romano, E., ... Hammami, M. (2013). Physicochemical and sensory characteristics of virgin olive oils in relation to cultivar, extraction system and storage conditions. *Food research international*, 54(2), 1915–1925. Retrieved from https://scholar.cnki.net/Detail/doi/GARJ2013/SJES14010600411056
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- Arfa, I., Nouira, S., Abid, A., Alaya, N. B.-B., Zorgati, M., Malouche, D., ... Romdhane, H. B. et al. (2010). Absence d'association entre les polymorphismes du système rénine angiotensine (sra) et l'hypertension artérielle chez les diabétiques de type 2 tunisiens. *la tunisie médicale*, 88(01), 37–40.
- Arfa, I., Nouira, S., Abid, A., Bouafif-Ben, N. A., Zorgati, M. M., Malouche, D., ... Ben, H. R. et al. (2010). Lack of association between renin-angiotensin system (ras) polymorphisms and hypertension in tunisian type 2 diabetics. *La tunisie Medicale*, 88(1), 38–41.
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- Malouche, D. (2009a). Determining full conditional independence by low-order conditioning. *Bernoulli*, 15(4), 1179–1189. Retrieved from 6 https://projecteuclid.org/journals/bernoulli/volume-15/issue-4/Determining-full-conditional-independence-by-low-order-conditioning/10.3150/09-BEJ193.full
- Malouche, D. (2009b). Mixed graphical model selection using holm's procedure. *Communications in Statistics-Theory and Methods*, 38(9), 1453–1464. Retrieved from **6** https://doi.org/10.1080/03610920802455019
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- Malouche, D., & Sevestre-Ghalila, S. (2008). Estimating high dimensional faithful gaussian graphical models by low-order conditioning, 595–025. Retrieved from

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- Arfa, I., Abid, A., Malouche, D., Alaya, N. B., Azegue, T. R., Mannai, I., ... Blousa-Chabchoub, S. et al. (2007). Familial aggregation and excess maternal transmission of type 2 diabetes in tunisia. *Postgraduate medical journal*, 83(979), 348–351.
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- Letac, G., & Malouche, D. (2000). The markov chain associated to a pick function. *Probability theory and related fields*, 118(4), 439–454. Retrieved from 6 https://link.springer.com/article/10.1007/PL00008750
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Preprints

- Malouche, D. (2021b). Www.covidradar24.org, a real-time covid-19 tracker. Retrieved from https://papers.srn.com/sol3/papers.cfm?abstract_id=3900615
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Others

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- Benstead, L. J., Lust, E. M., Malouche, D., Soltan, G., & Wichmann, J. (2013). Winners and losers after arab spring. Retrieved from ohttps://archive-yaleglobal.yale.edu/content/winners-and-losers-after-arab-spring