Summary

I am interested in **algorithms and finance**. Key achievements: (a) European Grants for **doctoral and postdoctoral studies** (b) contributions to **algorithmic and game-theoretic learning** (c) designed, analysed and implemented **algorithms** in projects.

Education

Postdoctoral & Doctoral Studies – Bournemouth University, UK

Subject: computer science with a focus on algorithmic and game-theoretic learning.

Post-doctoral theme: constraint-aware classification

Doctoral thesis title: competitive regression

Literature specificity: constraint learning, gradient learning, moving average passive-aggressive learning, conformal predictors and aggregation algorithm.

Activities pre-commencement of post-doctoral studies: **teaching** at university, work **experience** at Roxbury **Asset Management** and Y TREE focusing on **mathematical** aspects of investing. Activities post-commencement of post-doctoral studies: involvement in project ExtremeXP.

Activities during doctoral studies: **teaching** at university, **consultancy** at Glen Point Capital, **internship** at Arabesque **Asset Management**, and research projects (PROTEUS and ETI, analysing and implementing **machine learning algorithms** on **high-frequency data**).

Journals

Jamil, W. and Bouchachia, A., 2022. <u>Iterative ridge regression using the aggregating algorithm</u>, Pattern Recognition Letters, 158, pp.3441. Top rank (Q1) in Artificial Intelligence, Computer Vision, Pattern Recognition, Signal processing and software. For details, please see the link.

Reviewers' comments snippet: "I want to congratulate the authors for the mathematical demonstration made in the article. The paper is well structured, readable, and transparent. Its state-of-the-art is upto-date and corresponds to the subject dealt with."

Jamil, W. and Bouchachia, A., 2020. <u>Competitive normalized least-squares regression</u>. IEEE Transactions on Neural Networks and Learning Systems, 32(7), pp.3262-3267. Top rank (Q1) in Artificial Intelligence, Computer Networks and communications, Computer Science applications, and software. For details, please see the <u>link</u>.

Reviewers' comments snippet: "The authors make an excellent job of showing the potential of the proposal - both by (...) motivation and formalisation."

Jamil, W. and Bouchachia, A., 2020. <u>Online Bayesian shrinkage regression.</u> Neural Computing and Applications, 32, pp.17759-17767. Top rank (Q1) in Artificial Intelligence and software. For details, please see the <u>link</u>.

Reviewers' comments snippet: "Overall, the paper is in high qualify. I personally gained lots of knowledge by reading your paper and other references. What I love:

- 1. Very good writing skills. The language is perfectly native and comfortable to read.
- 2. Very good topic. Online learning is one of the most practical topics in machine learning. I am working in industry now and I am looking forward to more topics in this area.
- 3. Very strong mathematical knowledge. The paper provided mathematical proof for all theories and lemmas. The maths knowledge is very rich for the readers."

Jamil, W. and Bouchachia, A., 2020. <u>Competitive regularised regression</u>. Neurocomputing, 390, pp.374-383. Top rank (Q1) in Artificial Intelligence, Cognitive Neuroscience and Computer Science and Applications. For details, please see the link

Reviewers' comments snippet: "The paper is very interesting and its results of very practical importance. The mathematical analysis is correct."

Chapter

Jamil, Waqas, and Abdelhamid Bouchachia. "Model selection in online learning for times series forecasting." Advances in Computational Intelligence Systems: Contributions Presented at the 18th UK Workshop on Computational Intelligence, September 5-7, 2018, Nottingham, UK. Springer International Publishing, 2019. For details, please see the link.

Conferences

Jamil, Waqas, and Abdelhamid Bouchachia. "Online Bayesian shrinkage regression." Contributions Presented at the 27th European Symposium on Artificial Neural Networks, ESANN 2019, Bruges, Belgium, April 24-26, 2019. For details, please see the link.

Jamil, Waqas, et al. "Scalable online learning for flink: SOLMA library." Proceedings of the 12th European Conference on Software Architecture: Companion Proceedings. 2018. For details, please see the <u>link</u>.

Waqas Jamil, Yuri Kalnishkan and Abdelhamid Bouchachia, "Aggregation Algorithm Vs. Average for Time Series Prediction", ECML-PKDD 2016 Workshop on Large-scale Learning from Data Streams in Evolving Environments. For details, please see the link.

Reports

Wenjuan Wang, J.de Matias Bejarano, Waqas Jamil, Chemseddine Mansouri and Abdelhamid Bouchachia, "Scalable Drift and Anomaly Detection", PROTEUS: Project deliverable Report

Abdelhamid Bouchachia, Wenjuan Wang, Saad Mohamad, Chemseddine Mansouri and Waqas Jamil, "Novel Scalable Online Machine learning algorithms for data streams", PROTEUS: Project deliverable Report

Abdelhamid Bouchachia, Waqas Jamil and Wenjuan Wang "Basic Scalable Streaming Algorithms", PROTEUS: Project deliverable Report