HAMID REZA KHOSRAVANI

Senior Lecturer, Computing Department

Westminster International University in Tashkent

E-mail: hrkhosravani@yahoo.com

LinkedIn: https://pt.linkedin.com/in/hrkhosravani

Google Scholar: https://scholar.google.pt/citations?user=K_88G9cAAAAJ&hl=en

Profile Summary

Senior Lecturer at Westminster International University in Tashkent (WIUT) with a PhD in Artificial Intelligence and over 12 years of experience in machine learning research and application. Published 16 articles in leading journals with more than 500 citations (according to Google Scholar) and participated in international research projects. Experienced in time series models, deep learning, and optimization algorithms with a focus on real-time applications. Highly skilled in both academic and industry research, with proven experience in guiding students and delivering university-level courses on machine learning and database management systems. Currently conducting research on large language models.

Education

- Post-doctoral Fellow – Center of Intelligent Systems, IDMEC, Instituto Superior Técnico, Lisbon, Portugal (May 2017 – Oct 2017)

- PhD in Informatics Engineering (Artificial Intelligence specialization) – University of Algarve, Faro, Portugal (Sept. 2013 – April 2017) – Graduated with "Very Good"

Teaching Experience

- Senior Lecturer in Computing – Westminster International University in Tashkent (Aug. 2024 – Present)

Courses Taught:

- Machine Learning: Guiding students in understanding algorithms and applications of machine learning, including deep learning and practical projects.

- Database Management Systems: Teaching database design, SQL, and data handling best practices to undergraduate students.

Research Projects

1. Intelligent Question and Answering System

Research Cluster at WIUT Computing Department, 2024

The proposed project is aimed at developing a Q&A system using LLMs and the RAG technique to automate the process of responding to student and staff queries related to the university regulations and policies.

2. Prediction of Energy Consumption of CIESOL Building (MEETINROOM)

FP7 European project, 2015

Focused on developing models to predict energy consumption for bioclimatic buildings, improving overall energy efficiency.

3. Intelligent Control of HVAC Systems in Buildings (CISCE)

QREN SI&DT 38798, 2012–2015

Developed intelligent control mechanisms for HVAC systems using neural networks.

4. Neural Networks: Data Selection and Online Adaptation

PhD Research, Dec. 2012 – April 2017

Proposed new methods for data-driven modeling using online adaptation for neural networks.

Professional Experience

- Senior Lecturer in Computing – Westminster International University in Tashkent (Aug. 2024 – Present)

Teaching machine learning and database management systems to undergraduate students, supervising research projects, and conducting research on large language models.

- Senior Data Scientist – Two Impulse (Sept. 2023 – Aug. 2024)

Developed machine learning solutions for energy companies and data centers, focusing on improving energy efficiency and reducing environmental impact.

- Data Science Specialist – McKinsey & Company (Nov. 2021 – Aug. 2023)

Provided advanced analytics platforms for B2B pricing and sales growth, employing machine learning to identify major opportunities.

- Senior Data Scientist – Nokia Portugal (Oct. 2019 – Nov. 2021)

Built analytics platforms for monitoring and analyzing global communication networks, integrating machine learning solutions for network performance.

- Senior Data Scientist – Closer - Consultoria Lda. (Oct. 2017 – Oct. 2019)

Led projects involving fraud detection, customer behavior analysis, and recommendation systems for clients in insurance and automotive sectors.

Skills

- Machine Learning & AI: Deep Learning (CNNs, RNNs), Generative Adversarial Networks, Time Series Predictive Modeling, LLMs, Supervised & Unsupervised Learning

- Programming & Tools: Python (Keras, Pandas, scikit-learn), MATLAB, C/C++, Kafka, Azure Databricks, Amazon SageMaker, SQL (PostgreSQL, Oracle)

- Cloud Platforms: Microsoft Azure, AWS

- Other Tools: Git, Grafana, JIRA, Linux, Text Mining, Web Scraping

Awards & Certificates

- Erasmus Mundus Scholarship – PhD Program, University of Algarve (Sept. 2013 – Jun. 2016)

- Winner of Hackathon 2020 – Developed a unified dashboard for monitoring Nokia product data flows

- Microsoft Azure Machine Learning for Data Scientists (Apr. 2024) – Verified Certificate, Coursera (Microsoft)

- Generative AI with Large Language Models (Mar. 2024) – Verified Certificate, Coursera (DeepLearning.AI)

- Natural Language Processing Specialization (Feb. 2021) – Verified Certificate, Coursera (DeepLearning.AI)

Publications

- Journals

1. Khosravani H.R., Ruano A.E., Ferreira P.M. (2016). "A convex hull-based data selection method for data driven models". Applied Soft Computing, 47(1): 515-533. DOI: https://doi.org/10.1016/j.asoc.2016.06.014

2. Khosravani H., Castilla M., Berenguel M., Ruano A., Ferreira P. (2016). "A Comparison of Energy Consumption Prediction Models Based on Neural Networks of a Bioclimatic Building". Energies, 9(1): 57-57. DOI: https://doi.org/10.3390/en9010057

3. Ruano A.E., Pesteh S., Silva S., Duarte H., Mestre G., Ferreira P., Khosravani H., Horta R. (2016). "The IMBPC HVAC system: a complete MBPC solution for existing HVAC systems". Energy and Buildings, 120(1): 145-158. DOI: https://doi.org/10.1016/j.enbuild.2016.03.043

4. Mestre G., Ruano A., Duarte H., Silva S., Khosravani H., Pesteh S., Ferreira P., Horta R. (2015). "An Intelligent Weather Station". Sensors, 15(12): 31005-31022. DOI: https://doi.org/10.3390/s151229841

5. Ruano A.E., Khosravani H.R., Ferreira P.M. (2015). "A Randomized Approximation Convex Hull Algorithm for High Dimensions". IFAC-PapersOnLine, 48(10): 123-128. DOI: https://doi.org/10.1016/j.ifacol.2015.08.119

6. Ruano A.E., Madureira G., Barros O., Khosravani H.R., Ruano M.G., Ferreira P.M. (2014). "Seismic detection using support vector machines". Neurocomputing, 135(5): 273-283. DOI: https://doi.org/10.1016/j.neucom.2013.12.020

7. Khosravani H.R. (2012). "Proposing an Improved Semantic and Syntactic Data Quality Mining Method using Clustering and Fuzzy Techniques". International Journal of Applied Information Systems, 3(3): 8-22.

- Conference Proceedings

1. Khosravani H.R., Ruano A., Ferreira P.M. (2017). "A Comparison of Four Data Selection Methods for Artificial Neural Networks and Support Vector Machines". IFAC-PapersOnLine, 50(1): 11227-11232. DOI: https://doi.org/10.1016/j.ifacol.2017.08.1577

2. Khosravani, H.; Ruano, A. E; Ferreira, P. M. 2017. "A New Convex Hull, Sliding Window Based Online Adaptation Method for Fixed-Structure Radial Basis Function Neural Networks", In 9th European Symposium on Computational Intelligence and Mathematics, 4-7 Oct 2017, Faro, Portugal.

3. Ruano A.E., Pesteh S., Silva S., Duarte H., Mestre G., Ferreira P.M., Khosravani H., Horta R. (2016). "PVM-based intelligent predictive control of HVAC systems". IFAC International Conference on Intelligent Control and Automation Sciences. DOI: https://doi.org/10.1016/j.ifacol.2016.07.141

4. Ruano A.E., Mestre G., Duarte H., Silva S., Pesteh S., Khosravani H., Ferreira P.M., Horta R. (2015). "A neural-network based intelligent weather station". IEEE 9th International Symposium on Intelligent Signal Processing (WISP). DOI: https://doi.org/10.1109/WISP.2015.7139169

5. Ruano A.E., Silva S., Pesteh S., Ferreira P.M., Duarte H., Mestre G., Khosravani H., Horta R. (2015). "Improving a neural networks based HVAC predictive control

approach". IEEE 9th International Symposium on Intelligent Signal Processing (WISP). DOI: https://doi.org/10.1109/WISP.2015.7139168

6. Ruano A.E., Madureira G., Barros O., Khosravani H.R., Ruano M.G., Ferreira P.M. (2013). "A Support Vector Machine Seismic Detector for Early-Warning Applications". IFAC International Conference on Intelligent Control and Automation Science. DOI: https://doi.org/10.3182/20130902-3-CN-3020.00082

7. Khosravani H.R., Ruano A.E., Ferreira P.M. (2013). "A simple algorithm for convex hull determination in high dimensions". IEEE 8th International Symposium on Intelligent Signal Processing (WISP). DOI: https://doi.org/10.1109/WISP.2013.6657492