Zhinoos Razavi

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Summary

I am formally trained in machine learning and Data Analytics and received my PhD at NICTA Data Analytics Lab, RMIT University, Melbourne, Australia. I studied the problem of analyzing big data in distributed settings. My PhD research focused on the design and development of different summarization frameworks using machine learning and deep learning algorithms. The findings advance knowledge and methodologies for the effective and efficient use of distributed mining algorithms for large-scale data analytics. I am currently a research fellow at University of Melbourne and St.Vincten's Hospital, Melbourne, Australia. I work on seizure prediction using long-term electrical brain activity recordings from humans obtained from the world-first clinical trial of the implantable NeuroVista Seizure Advisory System.

EDUCATION

PhD in Machine Learning **2014-2019**
Royal Melbourne Institute of Technology *Melbourne, Australia*

Postdoctoral in Seizure Prediction **2019-2021**
University of Melbourne *Melbourne, Australia*

RESEARCH EXPERIENCE

- **School of Medical, Melbourne University**| **Research Fellow**| Australia 2019-2021
  - Analysing invasive long-term human trial of EEG time series to predict seizures. Design and develop automated patient specific prediction framework. The end goal of this project is to apply developed machine learning algorithms on wearable devices to alarm epileptic patients.
- **IBM Research Lab** | **Data scientist** | Melbourne, Australia 2014-2016
  - Design, develop and visualization of map matching algorithms for GPS trajectories using stochastic modeling to classify drivers based on their driving behaviors.
- **Georgia Institute of Technology** | **Research scientist** | Atlanta, USA 2012-2013
  - Design and develop machine learning algorithms for pattern mining in medical images.
- **Institute of Telecommunication and IT** | **Research scientist** | Aveiro, Portugal 2011-2012
  - Video coding and image processing to compress submodal images using incremental learning algorithms.

KEY SKILLS

Python, scikit-learn, MATLAB, Linux scripting, WEKA, Docker/Singularity, HPC server.

TEACHING & MENTORING EXPERIENCE

Co-supervise minor/major thesis of master/PhD students all topics related to seizure prediction at Monash University, Melbourne, Australia. 2019-now

Teaching assistant for the units of Machine learning, Data Mining, Data Wrangling, Modeling for Data Analysis, Introduction to Data Science, Artificial Intelligence, Algorithms and Data structure at

Monash University, Melbourne, Australia. 2016-now

AWARDS AND ACHIEVEMENTS

- Honor certificate of cognitive neuroscience course, Granted by Laureate institute for brain research, USA, 2020.
- Best Oral Presentation Award, Emerging Big Data Technologies Summit (EBDTS), Melbourne, Australia , 2016.
- Invited Speakers, Emerging Big Data Technologies Summit, Melbourne, Australia, 2016.
- Best Machine learning Poster Award, Monash Warwick Alliance, Melbourne, Australia, 2015.
- Two years Australian Computer Society (ACS) grant,$20,000, 2014-2016.
- Australian Postgraduate Award (APA), $84,000, 2015-2018.
- Research Grant, school of Computer Science and IT, RMIT university,$20,000, 2014-2015.
- Portuguese FCT Grant, 40,000, 2010-2013.

PUBLICATIONS

- **Y.Liu, Z.R.Hesabi, L.Kuhlmann, and M.cook** *"Epileptic Seizure Onset Predicts Its Duration"*, published in European Journal of Neurology,2021.
- **H.Nguyen,Z.R.Hesabi, and L.Kuhlmann** *"Evaluation of Channel Performance in Seizure Prediction"*, ACSW '21: Australasian Computer Science Week Multiconference,2021.
- **Z.R.Hesabi**,L.Kulhmann,and M.Cook *"Crowdsourcing and independently evaluating seizure prediction solutions via Epilepsyecosystem.org"*, American Epilepsy Society(AES), 2021.
- **Z.R.Hesabi**,L.Kulhmann,and M.Cook *"Crowdsourcing and independently evaluating seizure prediction solutions via Epilepsyecosystem.org"*,American Epilepsy Society(AES), 2020.
- **Z.R.Hesabi**, T.ellis,and K.Liao *"DistClustTree: A framework for Distributed Stream Clustering"*, In Proc. of Australasian Data Base Community Conference (ADC), 2018.
- **Z.R.Hesabi**, Z. Tari, A. Goscinski, A. Fahad, I. Khalil, and C. Queiroz, *"Data Summarization Techniques for Big Data—A Survey"*, In Handbook on Data Centers, pp. 1109-1152, Springer, 2015.
- **Z.R.Hesabi**, T.Sellis, X.Zhang, *"Anytime Concurrent Clustering of Multiple Streams with an indexing Tree"*, In Proc.of the 4th International Workshop on Big Data, Streams and Heterogeneous Source Mining(BigMine), JMLR WCP,vol.41, 2015.
- **Z.R.Hesabi**, B.Kazimipour, M.Deriche and A.Navarro, *"A multilevel memory-assisted lossless compression algorithm for Medical Images"*, In Proc.of the 23rd European Signal Processing Conference(EUSIPCO), 2015.
- **Z.R.Hesabi**, M.Sardari, A.Beirami, F.Fekri, M.Deriche and A. Navarro, *"A memory assisted lossless compression algorithm for medical images"*, In Proc.of 39th International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2014.
- Y.Zamanidoost, A.Navarro, **Z.R.Hesabi**, N.R.Froshani, and F.Farnia, *"Robust video water-marking against JPEG compression in 3D-DWT domain"*, 7th International Conference on Information Assurance and Security(IAS), 2011.
- Y.Zamanidoost, S.M.Kuchaki, **Z.R.Hesabi** and A.Navarro, *"Robust Video Water-marking based on 3D-DWT using Patchwork Method"*, IMAGAPP/IVAPP, 2011.
- Zamanidoost,S.Mirzakuchaki, R.Ebrahimi,**Z.R. Hesabi** and M.Ayat,*"A Novel 3D Wavelet–Based Method for Blind Digital Video Watermarking"*, IEEE Symposium on Industrial Electronics and Applications (ISIE), 2010.