

Kamran Kowsari

CONTACT	<p>Address: Oppenheimer Tower, UCLA, Room 550 Cell Phone: +1 (202) 812-3013 Office: +1 (310) 622-5279 Web: www.kamrankowsari.com Email: kkowsari@mednet.ucla.edu Email: kk7nc@virginia.edu GitHub: github.com/kk7nc Medium: kk7nc.medium.com/</p>
RESEARCH INTERESTS	Machine Learning, Data Mining, Big Data, Mathematical modeling, Bio-medical Computing, Text Mining, Artificial Intelligence, Large Scale Data Processing
EDUCATION	<p>University of Virginia, Charlottesville, VA Summer 2016- May 2020 Ph.D. Dissertation: Diagnosis and Analysis of Celiac Disease and Environmental Enteropathy on Biopsy Images using Deep Learning Approaches Ph.D. Resrarch Area: Machine Learning, Data Mining, Mathematical modeling, Deep Learning , Intelligent systems, Bio-medical Computing Advisor: Laura E. Barnes Advisor: Donald E. Brown</p> <p>The George Washington University, Washington, DC Fall 2012- 2014 MS. Thesis topic: Investigation of FuzzyFind Searching with Golay Code Transformations Advisor: Simon Y. Berkovich</p>
RESEARCH EXPERIENCE	<p>Data Science Jan 2020 to present Machine Learning, Big Data, Data Analysis, Office of Health Informatics and Analytics - Uuniversity of California, Los Angeles</p> <p>Presidential Fellow in Data Science Fall 2018 to Dec 2019 Machine Learning, Big Data, Data Analysis, Data Science Institute - University of Virginia Supervisor: Laura E. Barnes, Ph.D Supervisor: Donald E. Brown, Ph.D Co-Supervisor: Philip B. K. Potter, Ph.D</p> <p>Research Assistant Fall 2016 to present Machine Learning, Big Data, Data Analysis, University of Virginia Supervisor: Laura E. Barnes, Ph.D Supervisor: Donald E. Brown, Ph.D Supervisor: Sana Syed, MD, MS</p> <p>Research Assistant August 2012 to May 2016 Big Data, Bio-medical Computing, The George Washington University Supervisor: Simon Berkovich, Ph.D Supervisor: Anelia Horvath, Ph.D Supervisor: James K. Hahn Ph.D</p> <p>August 2012 to May 2014 September 2013 to May 2014 May 2014 to May 2016</p>

WORKING EXPERIENCE **Data Scientist, Advanced Analytics** Jan 2020 to present
 University of California, Los Angeles

IT Lead/DBA April 2011 to July 2012
 SQL Server 2005 and 2008
 Step Company

Project Manager/Senior Software Developer January 2008 - February 2011
 Big Data, C# .Net, C++, SQL Server, and Rational Rose,
 DayComputer

Software Developer/ Software Engineer January 2007 - February 2008
 C# .Net, C++, SQL Server, Rational Rose, Data Analysis
 Pars System Company

- ORGANIZATION
- Member of Institute of Electrical and Electronics Engineers (IEEE)
 - Member of Association for Computing Machinery (ACM)
 - Member of The Science and Information organisation (SAI)
 - Researcher Member of McCormick Genomic and Proteomic Center Group (MGPC)
 - PC member of Multidisciplinary Digital Publishing Institute

REFEREED JOURNAL PUBLICATIONS

1. Syed, Sana, Lubaina Ehsan, Aman Shrivastava, Saurav Sengupta, Marium Khan, Kamran Kowsari, Shan Guleria et al. "Artificial Intelligence-Based Analytics for Diagnosis of Small Bowel Enteropathies and Black Box Feature Detection." *Journal of Pediatric Gastroenterology and Nutrition* (2021).
2. Ehsan, Lubaina, Marium Khan, Rasoul Sali, Alexis M. Catalano, William Adorno, Kamran Kowsari, Lin Cheng et al. "Prediction of Celiac Disease Severity and Associated Endocrine Morbidities through Deep Learning-based Image Analytics." *medRxiv* (2021).
3. Ehsan, L., Khan, M., Sali, R., Catalano, A.M., Adorno, W., Kowsari, K., Cheng, L., Pramoonjago, P., Raghavan, S.S., Silvester, J. and DeBoer, M.D., 2021. Prediction of Celiac Disease Severity and Associated Endocrine Morbidities through Deep Learning-based Image Analytics. *medRxiv*.
4. Deep Learning for Visual Recognition of Damaged Intestinal Architecture among Patients with Small Bowel Enteropathies (Under review *The Journal of the American Medical Association JAMA*)
5. Jinghe Zhang, Kamran Kowsari, James H. Harrison, Jennifer M. Lobo, and Laura E. Barnes, . "A Sparse Longitudinal Representation of Electronic Health Record Data" (Under progress 2019)
6. Kowsari, Kamran, Kiana Jafari Meimandi, Mojtaba Heidarysafa, Sanjana Mendu, Laura Barnes, and Donald Brown. "Text classification algorithms: A survey." *Information* 10, no. 4 (2019): 150.
7. Kowsari, Kamran, Mojtaba Heidarysafa, Donald E. Brown, Laura E. Barnes. "An Overview of Text Clustering Algorithm" (Under Progress)
8. Kamran Kowsari "DeepFuzzy: Deep Fuzzy Learning Model" (Under Progress)
9. Kamran Kowsari, Andrei C. Cosma, and Rahul Simha "Object Representation and Detection using RGBD-T for a better task handling" (Under submission)
10. Jinghe Zhang, Kamran Kowsari, James H. Harrison, Jennifer M. Lobo, and Laura E. Barnes, . "Patient2Vec: A Personalized Interpretable Deep Representation of Longitudinal Electronic Health Record" (*IEEE Access* 2018)

11. Kiana Jafari Meimandi, Kamran Kowsari, Matthew S. Gerber, and Laura E. Barnes . "Human Activity Recognition in Mobile Health: A Review" (Under Progress)
12. Mojtaba Heidarysafa, Kamran Kowsari, Donald E. Brown, Kiana Jafari Meimandi, Matthew S. Gerber, and Laura E. Barnes. An Improvement of Data Classification using Random Multimodel Deep Learning (RMDL) (International Journal of Machine Learning and Computing (IJMLC) 2018)
13. Kamran Kowsari and Manal H. Alassaf, "Weighted Unsupervised Learning for 3D Object Detection" International Journal of Advanced Computer Science and Applications (IJACSA), 2016.
14. Kamran Kowsari, Maryam Yammahi, Nima Bari, Roman Vichr, Faisal Alsaby and Simon Y. Berkovich, "Construction of FuzzyFind Dictionary using Golay Coding Transformation for Searching Applications" International Journal of Advanced Computer Science and Applications (IJACSA)6(3), 2015.
15. Movassagh, Mercedeh, Nawaf Alomran, Prakriti Mudvari, Merve Dede, Cem Dede, Kamran Kowsari, Paula Restrepo et al. "RNA2DNAAlign: nucleotide resolution allele asymmetries through quantitative assessment of RNA and DNA paired sequencing data." Nucleic Acids Research 44, no. 22 (2016).
16. Mudvari, Prakriti, Mercedeh Movassagh, Kamran Kowsari, Ali Seyfi, Maria Kokkinaki, Nathan J. Edwards, Nady Golestaneh, and Anelia Horvath. "SNPlice: variants that modulate Intron retention from RNA-sequencing data." Bioinformatics 31, no. 8 (2015).
17. Mudvari, Prakriti, Kamran Kowsari, Charles Cole, Raja Mazumder, and Anelia Horvath. "Extraction of molecular features through exome to transcriptome alignment." Journal of metabolomics and systems biology 1, no. 1 (2013).

CONFERENCE
PAPERS

1. Heidarysafa, M., Kowsari, K., Bashiri, M., Brown, D. E. (2021). Toward Knowledge Discovery Framework for Data Science Job Market in the United States.
2. Zhang, J., Kowsari, K., Boukhechba, M., Harrison, J., Lobo, J., Barnes, L. (2020, December). Sparse Longitudinal Representations of Electronic Health Record Data for the Early Detection of Chronic Kidney Disease in Diabetic Patients. In 2020 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) (pp. 885-892). IEEE.
3. Kamran Kowsari, Mojtaba Heidarysafa, Tolu Odukoya, Philip Potter, Laura E. Barnes, and Donald E. Brown "Gender Detection on Social Networks using Deep Learning"
4. Sarker, A., Shen, H., Kowsari, K. (2020, December). A Data-Driven Reinforcement Learning Based Multi-Objective Route Recommendation System. In 2020 IEEE 17th International Conference on Mobile Ad Hoc and Sensor Systems (MASS) (pp. 103-111). IEEE.
5. Heidarysafa, M., Kowsari, K., Odukoya, T., Potter, P., Barnes, L. E., Brown, D. E. (2020, July). Women in ISIS Propaganda: A Natural Language Processing Analysis of Topics and Emotions in a Comparison with a Mainstream Religious Group. In Science and Information Conference (pp. 610-624). Springer, Cham.
6. Kamran Kowsari, Rasoul Sali, Marium Khan, S. Asad Ali, Sean Moore, Beatrice Amadi, Paul Kelly, Sana Syed and Donald E Brown. "Diagnosis of Celiac Disease and Environmental Enteropathy on Biopsy Images Using Color Balancing on Convolutional Neural Networks" (Springer FTU 2019)
7. Kiana Jafari Meimandi, Kamran Kowsari, Mojtaba Heidarysafa, Mawulolo Ameko, Matthew S. Gerber, Laura E. Barnes, Donald E. Brown "Activity Recognition using Conditional RandomField (CRF) for Accelerometer" (Under Progress)

8. Mojtaba Heidarysafa, James Reed, Kamran Kowsari, April Celeste R. Leviton, Janet I. Warren, Donald E. Brown “ From Videos to URLs: A Multi-Browser Guide To Extract User’s Behavior with Optical Character Recognition” *Advances in Intelligent Systems and Computing*, Springer, Computer Vision Conference (CVC) 2019
9. Mojtaba Heidarysafa, Kowsari, Kamran, Laura E. Barnes, Donald E. Brown,. ” Analysis of Railway Accidents’ Narratives Using Deep Learning” (IEEE International Conference on Machine Learning and Applications (IEEE ICMLA 2018))
10. Kamran Kowsari, Mojtaba Heidarysafa, Donald E. Brown, Kiana Jafari Meimandi, and Laura E. Barnes. “RMDL: Random Multi-models Deep Learning for Classification” *ACM International Conference on Information System and Data Mining*, 2018 (Best Paper)
11. Kowsari, Kamran, Nima Bari, Roman Vichr, and Farhad A. Goodarzi. “FSL-BM: Fuzzy Supervised Learning with Binary Meta-Feature for Classification.” *IEEE Future of Information and Communication Conference (Future of Information and Communication Conference (FICC) 2018)*
12. Alicia L. Nobles, Jeffrey J. Glenn, Kamran Kowsari, Bethany A. Teachman, Laura E. Barnes. “Identification of Imminent Suicide Risk Among Young Adults using Text Messages” *Conference on Human Factors in Computing Systems. ACM Conference on Human Factors in Computing Systems (ACM CHI 2018)*
13. M. Boukhechba, J. Gong, K. Kowsari, M. K. Ameko, K. Fua, P. I. Chow, Y. Huang, B. A. Teachman, M. Gerber, and L. E. Barnes. *Physiological Changes over the Course of Cognitive Bias Modification for Social Anxiety. The IEEE Conference on Biomedical and Health Informatics. IEEE Conference on Biomedical and Health Informatics (BHI 2018).*
14. Kowsari, Kamran, Donald E. Brown, Mojtaba Heidarysafa, Kiana Jafari Meimandi, Matthew S. Gerber, and Laura E. Barnes. ”HDLTex: Hierarchical Deep Learning for Text Classification.” *16th IEEE International Conference On Machine Learning And Applications (ICMLA 2017).*
15. Ritambhara Singh, Kamran Kowsari, Jack Lanchantin, Beilun Wang, and Yanjun Qi “GaKCo: a Fast and Scalable Algorithm for Calculating Gapped k-mer string Kernel using Counting” *The European Conference on Machine Learning & Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD 2017)*
16. Manal Alassaf , Kamran Kowsari, James K. Hahn “Automatic, Real Time, Unsupervised Spatiotemporal 3D Object Detection Using RGB-D Cameras”. *International Conference Computer Graphics, Imaging and Visualization. CGIV: Computer Graphics, Imaging and Visualization 2015 (Best Paper)*
17. Bari, Nima, Roman Vichr, Kamran Kowsari, and Simon Y. Berkovich. “Novel Metaknowledge-Based Processing Technique for Multimedia Big Data Clustering Challenges” In *Multimedia Big Data (BigMM)*, 2015 IEEE International Conference on, pp. 204-207. IEEE, 2015.
18. Bari, Nima, Roman Vichr, Kamran Kowsari, and Simon Berkovich. “23-bit metaknowledge template towards big data knowledge discovery and management” In *Data Science and Advanced Analytics (DSAA)*, 2014 International Conference on, pp. 519-526. IEEE, 2014.
19. Yammahi, Maryam, Kamran Kowsari, Chen Shen, and Simon Berkovich. “An efficient technique for searching very large files with fuzzy criteria using the Pigeonhole Principle” In *Computing for Geospatial Research and Application (COM. Geo)*, 2014 Fifth International Conference on, pp. 82-86. IEEE, 2014.

AWARDS	<ul style="list-style-type: none"> • Presidential Fellows in Data Science 2018-19 • Best Paper Award of International Conference on Information System and Data Mining (ICISDM), 2018 ACM • Best Presentation Award of International Conference on Information System and Data Mining (ICISDM), 2018 ACM • Best Paper Award of International Conference Computer Graphics, Imaging and Visualization (CGIV), 2015 IEEE • The Best Student Award of University of Science and Culture in 2007-8 • The Best Presentation Award of National Conference of Computer Application, 2008 	
TEACHING EXPERIENCE	<p>Co-instructor & Instructor Fall 2012-16 CSCI 1121 - Introduction to C Programming with Anasse Bari, CSCI 1131 - Algorithms and Data Structures with Anasse Bari The George Washington University</p> <p>Teaching Assistant Fall 2016–17 CS 4501: Network Security, CS 3330: Computer Architecture, CS 6316: Machine Learning, CS 4810: Computer Graphics University of Virginia</p> <p>Teaching Assistant Fall 2012–16 CSCI6221: Advanced Software Paradigmsms, CSCI1132: Data Structures and Software Design, CSCI1121: Introduction to C Programming The George Washington University</p> <p>Instructor and Co-instructor (Private Institute) 2007–2011 SQL Server, Data Structure, OS, Data structure by C Programming Technical Institute of Technology/ Faraby (Tehran)</p>	
DATASETS, LIBRARIES, AND PACKAGES	<ol style="list-style-type: none"> 1. Kamran Kowsari, Donald E. Brown, Mojtaba Heidarysafa, Kiana Jafari Meimandi, Matthew S. Gerber, Laura E. Barnes "Web of Science Dataset" URL: http://www.doi.org/10.17632/9rw3vkcfy4.6 2. Random Multimodel Deep Learning (RMDL) URL: https://pypi.org/project/RMDL/ Github: https://github.com/kk7nc/RMDL 3. HDLTex: Hierarchical Deep Learning for Text Classification URL: https://pypi.org/project/HDLTex/ Github: https://github.com/kk7nc/HDLTex/ 4. Patient2Vec: A Personalized Interpretable Deep Representation of the Longitudinal Electronic Health Record Github: https://github.com/BarnesLab/Patient2Vec 5. Weighted Unsupervised Learning for 3D Object Detection Github: https://github.com/kk7nc/3D-Object-Detection 6. Analysis of Railway Accidents' Narratives Using Deep Learning Github: https://github.com/mojtaba-Hsafa/train_accidents 7. From Videos to URLs: A Multi-Browser Guide To Extract User's Behavior with Optical Character Recognition Github: https://github.com/mojtaba-Hsafa/OCR-browser-domain-extractor 	

SKILLS

Programming

- Python
- C , C++ , C#
- SQL SERVER
- Delphi(7 and XE3)
- R
- Visual Studio.Net
- Embedded System
- OpenGL
- OpenCV
- OpenNI
- Oracle Database

Theoretical Skills

- Deep Learning
- Machine Learning
- Database
- Data analysis
- Data Mining
- Unsupervised Learning
- Semi-Supervised Learning
- Supervised Learning
- Mathematical Modeling
- RUP and UML
- NLP
- Computer Graphics
- Hardware Programming
- Optimization

PROFESSIONAL SERVICE- EDITORIAL

Selected Journals

- Reviewer of IEEE Access
- Reviewer of Journal of Applied Sciences
- Reviewer of Journal of Information
- Reviewer of Machine Learning and Knowledge Extraction
- Reviewer of Journal of mathematics
- Reviewer of Journal of Applied System Innovation
- Reviewer of Journal of Big Data and Cognitive Computing
- Reviewer of Journal of Multimodal Technologies and Interaction
- Reviewer of International Journal of Advanced Computer Science and Applications

Selected Conferences

- Program Committee (PC) IEEE International Conference on Machine Learning and Applications
- IEEE International Conference on Intelligent Transportation Systems
- ACM Conference on Computer-Supported Cooperative Work and Social Computing
- IEEE/ACM Conference on connected Health: Application, Systems and Engineering