Abolfazl Farahani

Personal Data

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GitHub:	www.github.com/abfarahani

Education

2016 - Present	**University of Georgia, USA**
	Ph.D. Candidate in COMPUTER SCIENCE
	Advisor: Prof. Hamid R. Arabnia
1997 - 2001	**Azad University, IRAN**
	B.Sc. in COMPUTER ENGINEERING
	Advisor: Prof. Ali Chitsaz

Publications

[1] **Farahani, A.**, Aghasafari, P., Miller, A., Yanzhi, H., and Samadian, A. DeepTeeNet: Tooth instance segmentation in radiographic images. In progress.

[2] **Farahani, A.**, Assefi, M., , Taha, T. R., Rasheed, K., Arabnia, H. R., and Hersonsky, S. Document classification: Principles, techniques, and tools. In progress.

[3] **Farahani, A.**, Pourshojae, B., Rasheed, K., and Arabnia, H. R. A concise review of transfer learning. *Accepted for IEEE CPS proceedings* (2020), In press.

[4] **Farahani, A.**, Voghoei, S., Rasheed, K., and Arabnia, H. R. A brief review of domain adaptation. *Accepted for Transactions on Computational Science and Computational Intelligence, Springer* (2020), In press.

[5] Aghasafari, P., **Farahani, A.**, Yang, P.-C., Kernik, D. C., and Clancy, C. Classification of pathogenic and benign induced pluripotent stem cell-derived cardiomyocytes. In progress.

[6] Amirian, S., **Farahani, A.**, Rasheed, K., and Arabnia, H. R. The use of video captioning for fostering physical activity. *Accepted for IEEE CPS proceedings* (2020), In press.

[7] Toutiaee, M., Keshavarzi, A., **Farahani, A.**, and Miller, J. A. Video contents understanding using deep neural networks. *arXiv preprint arXiv:2004.13959* (2020).

[8] Voghoei, S., Tonekaboni, N. H., Yazdansepas, D., Soleymani, S., **Farahani, A.**, and Arabnia, H. R. Personalized feedback emails: A case study on online introductory computer science courses. In *Proceedings of the 2020 ACM Southeast Conference* (2020), pp. 18–25.

Teaching Experience

May 2019 - Aug 2019 Athens, GA	Lab Instructor *University of Georgia* • Introduction to Computing and Programming.
Aug 2019 - May 2021 Athens, GA	Head Teaching Assistant *University of Georgia* • Software Development
Aug 2016 - Aug 2019 Athens, GA	Graduate Teaching Assistant *University of Georgia* • Computer Networks • Computing, Ethics, and Society • Human Computer Interaction • Discrete Mathematics

Research Experience

Aug 2016 - Present Athens, GA	**Graduate Research Assistant** *University of Georgia* Implemented Anomaly Detection models using autoencoder and various distance metrics such as Maximum mean discrepancy (MMD), KL divergence, and Mahalanobis distance alongside Support Vector Data Description (SVDD) loss to better extract a descriptive and compact representation of input image data.
Dec 2019 - Aug 2020 San Francisco, CA	**Machine Learning Scientist** *Smile Standard-StEP startup* Incorporated mask region based convolutional neural network for deep instance segmentation of teeth in X ray images to help dentists make more precise teeth disorder diagnoses.
Jul 2019 - Jan 2020 Davis, CA	**Research Scientist** *University of California Davis* *Departments of Physiology and Membrane Biology* Conducted a research study to deliver a data classification pipeline using ANN to prescribe the most impactful attributes on the model prediction accuracy. We also utilized AzureML model interpretability toolbox to interpret the effects of parameters on the probability of a predictive score.

Professional Experience

Nov 2012 - Jun 2013 Isfahan, Iran	**Automation Engineer Consultant** *Poweron Control Co.* Designing and programming a control system and Implementing a database for a petrochemical company.
Aug 2008 - Nov 2012 Tehran, Iran	**Lead Automation and Control System Engineer** *AMS Co.* Designing and programming several automation control systems along with a database management platform for multiple oil and gas companies.
Sep 2004 - Aug 2008 Isfahan, Iran	**Automation Engineer and programmer** *IRISA Co.* Implementing several management/automation systems for steel, oil, and gas companies.
May 2003 - Sep 2004 Arak, Iran	**Software Engineer and web developer** *Tabeshgar Electronic Co.* Designing and developing a web portal for a telecommunication organization to provide an interactive dashboard.

Invited Talks

Nov 2019 Athens, GA	**Panelist,** "Facial Recognition Software" , Data for Good Terry College of Business, University of Georgia
Feb 2019 Athens, GA	**Invited Speaker,** "Python and Data Science" , Data Science Computer Science Department, University of Georgia
Nov 2018 Athens, GA	**Invited Speaker,** "SpatioTemporal topic modeling for image classification" , Computer Vision Computer Science Department, University of Georgia

Poster Presentations

Mar 2019 Athens, GA	**Video Contents Understanding using Deep Neural Networks** Research day, Department of computer science, University of Georgia

Skills

Programming	Python, JAVA, C, C++, SQL, HDML, PHP, Matlab, R
Frameworks and Tools	pytorch, Tensorflow, Keras, OpenCV, Pandas, NumPy, Scikit-learn, AWS, GCP, Azure ML, Docker, Spark
Expertise	Machine learning, Deep learning, Data mining and visualization Data and Quantitative Analysis, Big data queries and interpretation Domain Adaptation, Transfer Learning, Representation Learning Supervised/Unsupervised Learning, Anomaly Detection, Generative Models

Certifications

Mar 2021 Online	Machine Learning Triplebyte.com
Dec 2012 Tehran, Iran	Java Advanced AMS Co.
May 2012 Tehran, Iran	Java Fundamental AMS Co.
Feb 2008 Isfahan, Iran	SQL Server IRISA Co.

Honors and Awards

Sep 2018 Atlanta, GA	Second prize winner Home Depot Code_Athlon
May 2001 Tehran, IRAN	Second prize winner National Intelligent mice Robotic Contest
Jun 1998 Arak, IRAN	Outstanding student award Computer Engineering department, IAU