PASHA NOURI

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WORK EXPERIENCE

Quantitative Analytics Specialist July 2024 - Present
Wells Fargo Co. (AI-ML / Risk Modeling Group) *Charlotte, NC*

- Optimized the Advanced Call Listening model's time complexity through batching inference, distributed user-defined functions, and improved PySpark partitioning, achieving over a 32% efficiency gain.
- Researched and developed a large language model as a judge to evaluate summary generation tasks.
- Enhanced annotation labeling for a transcript summary model using the SnorkelFlow platform.
- Developed a dynamic model to detect hallucinations in summaries generated by LLMS using contextual and non-contextual similarities.
- Developed and redesigned a vintage roll rate model for the Auto Balance lost forecast in Risk Modeling Group.

Ph.D. Quantitative Analytics Intern Summer 2023, 2024
Wells Fargo Co. (AI-ML / Advanced Technology for Modeling) *Charlotte, NC*

- Designed a contextual embedding-based framework to identify and measure biases in NLP datasets.
- Designed and implemented a negation identifier based on negSpacy for ML model interpretability.
- Developed a transformer-based model to classify negation cues and identify scope in unstructured data.

University Instructor January 2023 - May 2024
University of Texas at El Paso (Computer Science department) *El Paso, TX*

- Lectured in Introduction to Computer Science and the Java programming language.
- Lectured in Advanced Object-oriented Programming Languages.

Graduate Research Assistant August 2019 - Dec 2022
University of Texas at El Paso (Discovery Analytics Laboratory) *El Paso, TX*

- Researched contextual word embeddings for analytic and predictive models.
- Developed a transformer-based storytelling model to enhance NLP downstream tasks.
- Enhanced clustering and classification tasks on the timestamped dataset by incorporating a contextual storytelling model.
- Developed a diffusion-based predictive model to intermediate missed documents in a corpus.

Software Engineer November 2015 - May 2019
NetClearly Inc. *Oakland, CA*

- Developed a machine learning model to cluster search engine results and improve relevance.
- Built an e-commerce search engine using Apache Nutch and Solr for crawling and indexing webpages.
- Created a predictive model for web page behavior changes to optimize web crawling performance.
- Developed Harvester Apache Nutch plugin to parse web pages of e-commerce websites.

Graduate Research Assistant September 2011 - July 2013
Shahrood University of Technology (Web mining and Pattern Recognition) *Shahrood, Iran*

- Researched and designed a handwriting identification model for personal checks.
- Developed a decoded for transferring online courses on low-bandwidth networks.
- Developed an online platform based on the Apache OpenMeetings project.

EDUCATION

The University of Texas at El Paso (UTEP) *August 2019 - May 2024*

- Ph.D. in Computer Science
- M.Sc. in Computer Science

Relevant Coursework:
Machine Learning, Advanced Algorithms, Artificial Neural Networks, Human-Computer Interaction, Web-based Data Integration, Data Mining, Theory of Computation, Computer Networking, and Software Engineering V&V

TECHNICAL STRENGTHS

Programming Languages	Python, Java, R, MATLAB, C++
Open Source Tools	Apache Hadoop, Spark, Apache Nutch, Apache Solr, OpenOffice
Python Packages	Scikit-learn, SciPy, pandas, NumPy, Scrapy, Matplotlib, Plotly
ML Packages	PyTorch, TensorFlow, Keras, PySpark, SnorkelFlow, Weka
NLP Packages	Transformers, NLTK, spaCy, Gensim, StanfordNLP, TextBlob
Web Development	HTML, CSS, JavaScript, XML, XPath, jQuery
Databases	SQL, Redis, MongoDB, SQLite, Lucene/Solr

PUBLICATION

- Nouri, Alireza, and M. Shahriar Hossain. "CoRBS: a dynamic storytelling algorithm using a novel contextualization approach for documents utilizing BERT features." Knowledge and Information Systems (2024): Springer Nature 1-36.
- Nouri, Alireza, and M. Shahriar Hossain. "DifStoryGen: Diffusion-Based Storytelling Algorithm with Distributed Attention" 2024 IEEE International Conference on Big Data, Washington DC.
- Nouri, Alireza Pasha. Dynamic Storytelling Algorithms Using Contextual Aspects of a Large Language Model. Diss. The University of Texas at El Paso, 2024.

AWARDS AND HONORS

- Recipient of the Graduate School Fellowship for Outstanding Graduate Students, recognizing academic excellence and research potential.
- Active Member of the IEEE Computer Society, Southeastern Region, USA, contributing to professional growth and collaboration within the computing community.
- Inducted Member of Upsilon Pi Epsilon (UPE), the International Honor Society for Computing and Information Disciplines, for demonstrating academic and professional excellence.
- Achieved 1st Place in the 2024 Snorkel Hackathon at Wells Fargo, demonstrating exceptional skills in machine learning and data annotation using SnorkelFlow.

CERTIFICATIONS

- Build Basic Generative Adversarial Networks(GANs) (2023)
- Artificial Intelligence Foundations: Neural Networks (2021)
- Neural Networks and Deep Learning (2021)
- Advanced NLP with Python for Machine Learning (2021)
- NLP with Python for Machine Learning Essential Training (2021)