

# PASHA NOURI

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## WORK EXPERIENCE

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### **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 Ballance 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 decoder for transferring online courses on low-bandwidth networks.
- Developed an online platform based on the Apache OpenMeetings project.

## EDUCATION

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### 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

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

## PUBLICATION

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- 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

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- 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

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- 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)

## VOLUNTEERING

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### **Instructor**

*Pars Equality Center*

Dec 2014 -July 2015

*San Jose, CA*

- Lectured Computer Science to Senior Immigrants.

### **Data Science Summer Camp Instructor**

*Wells Fargo Co.*

Summer 2022

*Charlotte, NC*

- Lectured Data Science to high school students.