Mohammadsepehr Karimiziarani

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Tuscaloosa, Alabama

Work Experience

- **The University of Alabama,** Research Software Engineer - Data Scientist, August 2019 - Present
  - Developed a deep learning LSTM classifier to classify disaster related tweets into 6 predefined humanitarian categories and 12 emotion classes
  - Collaborated with 5-person project team and Published the results of Twitter data analysis in 4 high impact academic journals.
  - Paralleled codes for computationally expensive tasks to run time efficiently on HPC serves
  - Designed web based visualization dashboards using Tableau, Javascript, HTML, and CSS
- **Remote Sensing Center, The University of Alabama,** Software Engineering Intern, May 2019 - August 2019
  - Setup an EC2 instance running Linux on AWS
  - Developed and designed a website for Hydro Extremes Lab using HTML, CSS, and JavaScript running on the virtual machine
- **Department of Electrical and Computer Engineering, The University of Alabama,** Graduate Research Assistant, August 2018 - May 2019
  - Developed an image processing classifier for real-time identification of obstacles for drones

Education

- **The University of Alabama**, Tuscaloosa, Alabama, USA, August 2020 - May 2023. Ph.D., Interdisciplinary program in Computer Science and Civil Engineering
- **The University of Alabama**, Tuscaloosa, Alabama, USA, August 2019 - May 2022. M.Sc. in Computer Science
- **Sharif University of Technology (Ranked 1st in Iran)**, Tehran, Iran, August 2012 - May 2017. B.Sc. in Computer Science

Skills

- **Technical Skills**: Machine Learning, Deep Learning, NLP, Python(NumPy, Pandas, Scikit-learn, Keras), High Performance Computing, Social Media Analytics, Tableau, Git, DevOps, CI/CD, HTML, CSS, JavaScript, React, UI/UX, Responsive Web Design, Test-Driven Development, Front-End Web Development, Web3, Solidity, Smart Contracts, Blockchains

Certificates and Specializations

- **Front-End Developer Professional Specialization** (9 course certificates), Meta, January 2023
- **Blockchain Specialization** (4 course certificates), Coursera, August 2022
- **Social Media Data Analytics Certificate**, Coursera, May 2020

Projects

- **Twitter Data Analytics Dashboard**
  - **Tools:** Tableau
  - **Project Link:** sepehr.people.ua.edu/data-analytics-dashboard
- **Twitter analysis framework for disaster management**
  - **Language:** Python
  - **Tools:** Pandas, TensorFlow, ScikitLearn, Tweepy, NLTK, Joblib
  - **Technical skills:** Data Science, NLP, Deep Learning
  - **Project Link:** github.com/sepehrkrz/TwitterAnalysis-DisasterManagement
- **NWMURL Python library (Utility functions to generate National Water Model data URLs)**
  - **Language:** Python
  - **Technical skills:** CI/CD, PyPi
  - **Project Link:** https://github.com/sepehrkrz/nwmurl

Publications

- **Mohammadsepehr Karimiziarani**, and Hamid Moradkhani. 2023. Social response and Disaster management: Insights from twitter data Assimilation on Hurricane Ian. International Journal of Disaster Risk Reduction. (2023)
- **Mohammadsepehr Karimiziarani**, Wanyun Shao, Majid Mirzaei, and Hamid Moradkhani. 2023. Toward Reduction of Detrimental Effects of Hurricanes using a Social Media Data Analytic Approach: How Climate Change is perceived?. Climate Risk Management. (2023)
- Mostafa Dadashi Firouzjaei, **Mohammadsepehr Karimiziarani**, Hamid Moradkhani, Mark Elliott, and Babak Anasori. 2022. MXenes: The two-dimensional influencers. Mater. Today Adv. 13, (2022), 100202.
- **Mohammadsepehr Karimiziarani**, Keighobad Jafarzadegan, Peyman Abbaszadeh, Wanyun Shao, and Hamid Moradkhani. 2022. Hazard risk awareness and disaster management: Extracting the information content of twitter data. Sustain. Cities Soc. 77, May 2021 (2022), 103577.
- Peyman Abbaszadeh, Hamid Moradkhani, Keyhan Gavahi, Sujay Kumar, Christopher Hain, Xiwu Zhan, Qingyun Duan, Christa Peters-Lidard, and **Sepehr Karimiziarani**. 2021. High-resolution smap satellite soil moisture product: Exploring the opportunities. Bull. Am. Meteorol. Soc. 102, 4 (2021), 309–315.
- Seyed Moslem Shokrolahi and **Mohammadsepehr Karimiziarani**. 2021. A deep network solution for intelligent fault detection in analog circuit. Analog Integr. Circuits Signal Process. 107, 3 (2021), 597–604.