SARIM ZAFAR

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EDUCATION

MSCS North Dakota State University, Fargo 2019 – Present
- Advisor: Dr. Zubair Malik

BSCS Information Technology University, Lahore 2013 - 2018
- Thesis: Analysis of Pakistan's Political Landscape on Twitter
- Advisor: Dr. Junaid Qadir
- Selected Relevant Courses: Deep Learning, Artificial Intelligence (CS331), Topics in Artificial Intelligence (CS333)

RESEARCH EXPERIENCE

North Dakota State University, Fargo Jan 2019 – Present
Research Assistant
- Researching Combined Algorithm Selection and Hyperparameter optimization problem with the aid of Reinforcement Learning
- Researching Natural Language Interface to SQL databases

National University of Computer and Emerging Sciences, Lahore Jun 2016 – Jul 2017
Research Assistant
- Implemented different Machine learning models on provided genetic sequences in Affymetrix's microarrays for cancer classification. Developed ensemble models for better performance and used feature selection techniques to get robust and relevant features. (Python, sklearn, numpy)

TEACHING EXPERIENCE

Information Technology University, Lahore Feb 2018 - Jun 2018
Teaching Assistant, Deep Learning Course
- Assisted in the development of quizzes, exams, and homework
- Conducted tutorials and labs for the students

PUBLICATION

Zafar, S., Sarwar, U., Gilani, Z. and Qadir, J., 2016, November. Sentiment analysis of controversial topics on Pakistan's Twitter user-base. In *Proceedings of the 7th Annual Symposium on Computing for Development* (p. 35). ACM. link

PROFESSIONAL AFFILIATIONS

ADDO.AI, Lahore Jul 2017 – Dec 2018
AI Engineer

- Analyzed and identified risky driving behavior of Japan's old drivers by using smartphones and machine learning models. Risky driving behavior is very subjective so it was challenge to properly define rigged guidelines. (Python, pandas, scipy, sklearn, keras, seaborn, PostgreSQL and MQTT)
- Developed and trained a deep learning model based on the architecture presented in link for solving the well-studied problem of super-resolution. This model was used to super resolute satellite imagery. The main pain point was that the images were huge in size so I had to divide them up into patches and super resolute them separately and then stitch them back together. (Python, keras, sklearn, numpy and matplotlib)
- Developed a system to identify potential users who need to be targeted for selling packages and offers using historical data. It was an interesting problem due to the nature of data being heavily skewed. (Python, Sklearn, Pandas)
- Developed a POC to predict waiting time for vehicles outside a parking space. For this use case a Residential network was trained to predict bounding boxes around vehicles on security camera footage. (Python, scipy, keras)
- Developed and deployed an image retrieval system on GCP to retrieve images from catalog of a shop based on the query image. Deep features were extracted from a deep neural network and distance-based metrics were used to find similar images. (Python, keras, Sklearn, matplotlib)
- Deployed a system on GCP that was used for the task of email multi-class categorization using stacked Convolutions on text embedding. The challenge was that the data was very noisy and skewed towards a few classes. (Python, Spacy, nltk, keras, sklearn)
- Developed a prototype for signature verification and data extraction from bank checks. The main hurdle was the lack of examples for valid pairs. (python,keras,skimage)

Vivid Technologies, Lahore Aug 2015 – Apr 2016
Software Developer

- Developed and maintained a visual IVR system whose front end was written in angular js and its backend was written in Laravel with MySQL as its database
- Developed and maintained an online lead management system which was written using Laravel framework with MySQL as its database
- Developed APIs for a POC in Go language to demonstrate the languages advantages over traditional choices.
- I often wrote small utilities in python to automate mundane tasks

LANGUAGES

Urdu: Native Language

English: TOEFL IBT: 112/120
Intermediate Listener, Speaker, Reading and Writing

COMPUTER SKILLS

Programming language:

- Active: Python
- Non-Active: C, C++, PHP

HONORS AND AWARDS

- PEEF Scholarship: Covered all fees for the duration of the Bachelor's degree
- My team secured 3rd position in Startup Weekend Lahore '16 competition

OTHER

Github link: https://github.com/sarim-zafar
Citizenship: Pakistani
Participated in two Kaggle competitions:

- TensorFlow Speech Recognition Challenge (Top 25%)
- Quora Question Pairs (Top 35%)

REFERENCES

Dr. Zubair Malik, Assistant Professor
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North Dakota State University
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Dr. Mohsen Ali, Assistant Professor
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