Majed Alrogi

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Education & Honors

King Abdullah University of Science and Technology – GPA: 3.92/4.0 2023 - Present
Masters of Science in Computer Science

Virginia Tech – GPA: 3.89/4.0 2019 - 2023
Bachelor of Science in Computer Science with minors in Cybersecurity and Mathematics

KAUST Gifted Student Program, recipient of full-tuition merit scholarship 2019-2023
Virginia Tech, Dean's List 2019-2023

Experience

Research Intern, King Abdullah University of Science and Technology June – August 2022

- Wrote installation scripts for ExaGeoStat and all its dependencies for the Spack Package Manager.
- Added options to allow these Spack packages to enable CUDA and MPI to utilize graphics cards and distributed systems for ExaGeoStat.
- Collaborated with the Barcelona SuperComputing Center to containerize ExaGeoStat.

Research Intern, University of Washington June – August 2021

- Developed a classification algorithm for muscle fibers, using K-means Clustering in MATLAB.
- Cleaned and eroded the images to make the divisions among fibers more noticeable.
- Successfully classified 89% of the muscle fibers on average.

Projects

Twitter Emotion Sentiment Analysis November - December 2023

- Used BERT to classify the emotions conveyed within a dataset of tweets.
- Classified emotions such as happiness, sadness, fear, and disgust with a testing accuracy of 91%.

Language Classifier October 2023

- Used Recurrent Neural Networks to classify what language a sequence of text belongs to.
- Achieved a 71% accuracy across 18 languages.

MNIST Autoencoder September 2023

- Used Convolutional Neural Networks in Pytorch to create an MNIST Autoencoder.
- Reduced the dimensionality of the data by 96%.
- Created faithful reconstructions of MNIST images from encodings of size 30.

Backdoor Image Sanitation on Facial Classifiers January - May 2023

- Implemented Strong Intentional Perturbation (STRIP) to Detect backdoor images.
- Created a poisoned facial classifier to generate backdoor images.
- Wrote a program that sanitized backdoor images with 93% accuracy.

Skills

Libraries: Pytorch, Pandas, Scikit-Learn, TensorFLow, Matplotlib, SciPy, NumPy
Languages: Python, C, C++, Java, Javascript, Go, Kotlin, SQL, Scheme, MATLAB
Platforms: Docker, Github, MongoDB, Linux/Unix, AWS