Muhammad Talha Ejaz

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: talhaejazh
in: talha-ejaz-hussain

SKILLS & TECHNOLOGIES

Programming Languages: Python (Tensorflow, Pytorch, Keras, Scikit-learn, Seaborn, Pandas, Matplotlib, Matlab), C/C++ , SQL, Java, LaTeX
IDE:: IntelliJ,Jupyter Spyder, PyCharm, Colab, Anaconda, AWS Sagemaker, AWS Sagemaker Lab Studio, VSCode
Tools: ROS (Noetic, Melodic), Gazebo, Rviz, Mission Planner, Solidwork, Git, Dev-C++, RTAB-Map
Deep Learning Models: : U-Net, Yolo, VGG16, RESNET, ConvNET
Big Data: :Apache Spark, Scala, SparkSQL, RDD, DataFrames , DataSets , Spark ML , Spark Streaming
Data science: Data Visualization, Data cleaning and preprocessing, Statistical Analysis, Pattern Recognition, Machine Learning
Operating System: Windows, Ubuntu (18.04, 20.04),Linux, Raspbian, Mac
Contributing Writer, Medium: https://medium.com/@talha.ej10

EDUCATION

Columbus State University
Columbus, GA
Masters of Science in Robotics Engineering   CGPA: 3.6/4.0   *January 2022- December 2023*
Coursework: Computer Vision, Artificial Intelligence, Kinematics, Evolutionary Computation, Robotics System Design

PAF-Karachi Institute Of Economic Technology
Karachi, Pakistan
Bachelor of Engineering in Mechatronics   CGPA: 3.1/4.0   *January 2015-December 2018*
Coursework: Mechatronics System Design,Industrial Control Automation, Linear Control Systems, Introduction to Robotics and Computer Programming, Engineer Drawings, Data Structure & Algorithm, Computational Neuroscience, Discrete Mathematics

PROFESSIONAL EXPERIENCE

Graduate Teaching Assistant
January 2022 - Present
Columbus State University
Columbus, GA

➤ Directed undergraduate students in completing assigned tasks and supported faculty members with academic assistance.
➤ Liaised between faculty and students to optimize faculty time and oversaw students and assisted in hardware and software concepts.
➤ Organized numerous class presentations and new course materials as directed by the professor.

Trainee Engineer
March 2020 — December 2021
Yunus Textile Mills Ltd.
Karachi, Pakistan

➤ Collaborate with contractors, design team, and consultants to ensure company project requirements in committed time-frame.
➤ Performed data-driven decisions for maintaining cost control procedures and analyzed reports to provide strategic advice to the team.
➤ Participated in the weekly meetings and presented weekly production reports to HoD and the directors.

RELATED PROJECTS

Multi-UAV-based Vision System for Obstacle Mapping To Assist Path Planning of UGV:
December 2022
➤ Implemented collaborative mobile robots equipped with Stereo cameras and **LIDARs** for mapping an environment using point cloud.
➤ Created a multi-master package in **ROS** to initiate communication between the UGV (**Clearpath Jackal**) and UAVs.
   SLAM . ROS · Python · Perception · Path Planning . Autonomous

Deep CNN-Genetic Hybrid System for Obstacle Avoidance :
November 2022
➤ Implemented novel **Neuro-Genetic** hybrid system to optimize weights and enhance neural network performance.
   Genetic Algorithim . Neural Networks . Hyper-parameter Tuning . Crossover . Mutation

Deployed Deep CNN on Quanser Qcar for Self Driving Application:
July 2022
➤ Developed vision-based approach for navigation using CNN.
➤ Deployed the model train on custom data in the **Quanser QCAR** equipped with **Nvidia Jetson TX2**.
   ML · Python · CNN · Remote Access . Putty · Nueral Network . Autonomous Navigation

Stock Predictor using Spark Mlib :
October 2021
➤ Fetch data from **AlphaVantage API** and cleaned the data and deployed decision tree classifier to predict the stock price change.
➤ Used PySpark for Scalable Model and visualized the data.
   Big Data · ElasticSearch . AWS . Apache Spark · Pyspark · Machine Learning . Decision Tree

Play Space Invaders Game using Deep Reinforcement Learning:
August 2021
➤ Implemented Deep Q learning on RAM states as an input and achieved optimal and fast computation.
   Atari . Deep-Q Network . RAM . CNN . DRL

CONFERENCE

M.Talha Ejaz , Ammara Zahid, and M.Mudassir Ejaz, **"EEG Based Brain Controlled RC Car with Attention Level"**, *International Virtual Conference on AI for Smart Community,2020*
Perak, Malaysia

ACHIEVEMENTS

➤ Awarded fully funded masters programs at Columbus State University
➤ Awarded **"Employee of the Month"** for the months of March and April in 2021 at **Yunus Textile Mills Ltd**.
➤ Selected for an online **AI Joint Lab Program** in **Autonomous Driving** led by **Koç University, Turkey** in 2020.