Nikhil Pareek

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Innovative and proactive Machine Learning Engineer offering two years of experience building products in health and finance industry from ideation to launch. Excellent reputation resolving problems and leading cross-functional teams.

EDUCATION

The University of Texas at Dallas, TX, US 08/06/2018–12/12/2020
Master of Science in Computer Science GPA: 3.62/4
Courses: Design of Algorithms, Machine Learning, Natural Language Processing, Computer Vision, Big Data Technologies, Statistics

M.S.Ramaiah Institute of Technology, Bengaluru, India 08/01/2010–06/01/2014
Bachelor of Engineering in Mechanical Engineering GPA: 8.5/10
Courses: Time-Series Analysis (ANOVA, Z and T-Test, Fast Fourier Transform), Operational Research, Correlation and Regression

SKILLS

Languages: Python, JAVA, Scala, Fluent in HTML, CSS
DevOps CI/CD pipelines using JIRA/ASANA, Selenium, Dockers, Git, Visual Studio Code
Database technologies: MySQL, SQL Server, MongoDB, DynamoDB
Frameworks: Cloud Computing using Amazon Web Services (EC2, SQS, Lamda, Sagemaker, Docker ECS), Big Data ecosystems using Hadoop, PySpark, Machine Learning using Tensorflow, Keras, Pandas, Numpy, Rest API's - Flask

WORK EXPERIENCE

Prism Technology Holdings Inc. (New York, US) **– Machine Learning Engineering Associate** 08/26/2020–12/23/2020

- **Built a Biofeedback gaming application using biomarkers of stress and anxiety**(website)
  - Developed an end to end multi-threaded, real time application that detected the "Affective" state/stress of the user using physiological and motion data received from sensors such as ElectroCardiogram (ECG) and Accelerometer (demo game)
  - Designed and wrote a closed-loop feedback gameplay algorithm and presented the idea as a Co-founder at NYU Entrepreneurs Challenge, 2020-21 which was selected into the Semi-finals (demo app)
  - Technologies used: Python, Amazon Web Services (EC2, SQS , Lambda), REST API's -- BrainFlow, Polar SDK, Bleak

- **Designed a Data Streaming Service**
  - Utilized Bluetooth Low Energy(BLE) Service Protocol for reading and writing data from commercial Brain Computer Interface Device by implementing GATT Service-Characteristic-Descriptor behavior API and BrainFlow API (Towards Data Science)
  - Evaluated a communication strategy (b/w between Serial Port interface over BLE interface) using a client-server architecture by comparing Connection latency vs Application latency and informed hardware procurement decision from the results
  - Technologies used: Python, TCP/IP Network Socket Servers, Bluetooth Low Energy Network Protocol, JSON (Github)

- **Built a Heart Rate Monitor System and Respiration Detection System**
  - Remodeled and tested a Heart Rate detection algorithm and created a broadcasting service for client using TCP/IP socket
  - Trained and tested a stress detection Machine Learning model on physiological data utilising electrocardio-gram, respiration and 3-axis accelerometer data, recorded by a Brain Machine Interface Device using K-NN classifier and WESAD Dataset
  - Engineered and implemented a custom breath detection algorithm using Principal Component Analysis, Pearson correlation and Cross-correlation technique with the help of a three-axis accelerometer sensor
  - Successfully presented Cardiorespiratory gameplay feature at Y - Combinators (Published in Towards Data Science, Startup)
  - Technologies used: Python, TensorFlow, AWS - Sagemaker, Pandas, Numpy, Scipy, Scikit-learn, Flask

Texas Biomedical Device Centre (Dallas, US) **– Machine Learning Intern** 05/10/2019–05/05/2020

- **Human Activity Recognition using Recurrent Neural Network (RNN):** (project presentation)
  - Trained and tested a (Long Short-term Memory model) model to classify "natural" vs "impaired" upper-body movement amongst stroke patients in rehabilitation using Inertial Measurement Units (IMU's) in Python with 86% accuracy
  - Technologies used: Python, Tensorflow-GPU, Keras, Scikit-learn, Scipy, Numpy, Pandas, JSON

Fxkart.com (Bengaluru, India) **– Senior Business Analyst** 10/08/2015–12/08/2017

- **Automobile-Insurance Recommendation System:**
  - Developed algorithm for Optical Character Recognition using Tesseract-OCR for reading insurance quotes of retail users
  - Designed a relational data database and wrote Stored Procedures using SQL Server for storing market auto-insurance quotes
  - Spearheaded as a lead,the development of an online robo-advisory service and acted as a liaison with the investors
  - Technologies used: Python, C#.NET, Microsoft SQL Server, HTML, CSS, Tesseract-OCR, Content based Recommendation