Jinesh Mehta

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Publications

(HCA-DBSCAN) HyperCube based Accelerated Density Based Spatial Clustering for Applications with Noise | *NeurIPS Workshop 2019* | https://arxiv.org/abs/1912.00323

- Innovated a novel grid-based clustering algorithm, which reduces the number of comparisons for forming clusters exponentially, resulting in reduction of the overall time complexity to $n^{3/2}$ better than n^2 complexity of the traditional DBSCAN algorithm.
- Acquired a significant computational speed up-to 58% over other improvements of the DBSCAN algorithm while maintaining 100% accuracy.

Face Detection and Tagging Using Deep Learning | *International Conference on Computer, Communication and Signal Processing (ICCCSP) 2018* | https://ieeexplore.ieee.org/document/8452853

- Engineered the concept of Multi-view Face Detection and Tagging using Convolutional Neural Networks (CNN) - identifying faces from an image and provide labels to the detected faces using the Tensor-flow framework and Caffe library.
- Acquired an overall accuracy of 85% for facial recognition.

Pothole Detection and Analysis System (PoDAS) for Real Time Data Using Sensor Networks | *Journal of Engineering and Applied Sciences 2017* | https://www.medwelljournals.com/abstract/?doi=jeasci.2017.3090.3097

- Constructed a low-cost wireless sensor-based end-to-end system using Ultrasonic sensors, Arduino Uno R3, GPS module, Gyroscope and Accelerometer. Further, the location of detected potholes are notified to the appropriate government bodies using this system.

Projects

Classify Dog Breeds using CNNs [Python • TensorFlow • OpenCV • PHP]
https://github.com/mehtajinesh/Classify-Dog-Breeds-using-CNNs

- Modeled a dog breed classifier using Convolutional Neural Networks, which will accept any user-supplied image as input, and if a dog is detected in the image, it will provide an estimate of the dog's breed. If a human is detected, it will provide an estimate of the dog breed that is most resembling.

Analyze Movie Reviews using Sentiment Analysis [Python • PyTorch • AWS • PHP]
https://github.com/mehtajinesh/Sentimental-Analysis-using-PyTorch

- Engineered a sentimental analysis based web application in which a user can submit a movie review, and the prediction model behind the scenes will predict whether it is a Positive or Negative review.

Text Document Plagiarism Detection [Python • Tensorflow • AWS • PHP]
https://github.com/mehtajinesh/Plagiarism-Detection

- Developed a plagiarism detector that examines a text file and performs binary classification, labeling that file as either plagiarized or not, depending on how similar that text file is to a provided source text.

Education

Machine Learning Engineer Nanodegree - Udacity

- Duration: **4 months** • Year: **2019**

B.Tech. in Computer and Communication Engineering - Manipal Institute Of Technology

- Cumulative GPA : **8.37 / 10.0** • Year: **2013 - 2017**

Experience

Software Engineer II - Honeywell Technology Solutions Lab

Oct 2019 - Present

- Leading development teams for simulation and analytical tools used in engineering aircraft engines focused on turbines, compressors and fans.

Software Engineer I - Honeywell Technology Solutions Lab

July 2017 - Sept 2019

- Designed simulation and analytical tools used in engineering aircraft engines focused on turbines, compressors, and fans.
- **Key achievements** :
  - Remodeled four aerospace analytical tools to optimize and remove ambiguity, resulting in an additional annual productivity savings of **$1,000,000** for Honeywell Aerospace.
  - Replaced existing deployment framework with Wix (Open Source framework) for aerospace tools, reducing the enterprise software license costs by **$500,000**.

Scientific Staff - Center for Artificial and Machine Intelligence (CAMI)

Oct 2015 – June 2017

- Engineered deep learning algorithms used for recognizing fraud detection and clustering algorithms for weather predictions and earthquake studies.
- **Key achievements** :
  - Collaborated with three research scholars to produce two research papers namely : **'Face Detection and Tagging Using Deep Learning '** & **'HyperCube based Accelerated Density Based Spatial Clustering for Applications with Noise '**.

Software Intern - Fracktal Works Pvt. Ltd

June 2016 – July 2016

- Developed desktop-based applications as part of the software team.
- **Key achievements** :
  - Designed a desktop-based application, **'Fracktory 2.0 '**, using wxPython framework which allows clients to assign print jobs to 3D printers remotely and check printer status in real-time.

Skills

- **Languages**
  Python • C++ • PHP • C
- **Frameworks & Platforms**
  Tensorflow • PyTorch • AWS • Qt