SHIVAM CHAUDHARY

SOFTWARE ENGINEER

Personal Profile

Hi! I'm an aspiring Machine Learning developer. I have enrolled and successfully completed various certification programs in the field of Machine Learning and Artificial Intelligence. I got published two research papers in scientific journals of international repute.

Programming Languages

- Python
- MATLAB

Development Tools

- Jupyter
- Eclipse
- MATLAB (IDE)

Publications

- Performance Evaluation of Linearly Extensible Multiprocessor Network. (2017)
- Computer Aided Identification and Classification of cancer: A review. (2019)

Courses

- Applied Data Science with Python Specialization (Coursera).
- Neural Networks using Matlab Programming (Udemy).
- Machine Learning, Data Science and Deep Learning with Python (Udemy).
- Machine Learning A-Z™: Hands-On Python & R In Data Science (Udemy).
- Deep Learning A-Z™: Hands-On Artificial Neural Networks. (Udemy).

Contact Details

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Work Experience

Software Engineer

Genpact · 2019

- I Joined Genpact as a full stack Software Engineer in June 2019.

Academic Background

Bachelor Of Technology - Computer Science

Jaypee University, Anoopshahr (2019)

- Affiliated with AICTE.
- Obtained 8.5 CGPA.
- Got published two research paper in the scientific journals of international repute.

Professional Skills

Data Science

- Feature Engineering, Exploratory Data Analysis, Feature Extraction, Regression Analysis, Classification, Recommendation Systems, Deep Learning, LSTM, Computer Vision, Hyperparameter Tuning.

Image Processing

- Image Enhancement Techniques, Image Segmentation Techniques, Morphological Processing.

Frameworks and Libraries

- NumPy
- Pandas
- Matplotlib
- Seaborn
- Tensorflow
- Keras
- Pytorch
- NLTK

Personal Interests

- Coding
- Football
- Music
- Photography

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Projects

Computer Vision (2019)

- A deep convolutional network was developed to classify the animal's images present in a dataset of 10000 images into the categories of cat and dog. The architecture of the network involved two convolutional layers, two hidden layers and one output layer with ReLu activation used in the hidden layers and Sigmoid activation used in the output layer. 32 and 64 filters were used in the first and second convolutional layer respectively. Each of these filters has a dimension of 3X3. An accuracy of 82% was achieved.

Churn Modelling (2019)

- A deep neural classifier was developed to predict whether the customer would leave the bank or not according to the features that were present in the dataset (name of the features were anonymized to keep the details of the customers safe). The output variable was one-hot encoded and then fed to the neural network. The architecture involved three fully connected perceptron layers with the ReLu activation function in the hidden layer and Sigmoid function in the output layer. The model was cross-validated using the K-fold cross-validation. The performance of the model was further improved by fine-tuning the model using the grid search method.

Time-series Analysis (2019)

- A deep Recurrent Neural Regression model was developed using the concept of LSTM (Long Short Term Memory) cells to predict the stock prices. The collected data were normalized and then converted into three-dimensional data using the reshape function of NumPy. The model includes five LSTM layers with 80 units each and an input and output layer. Dropout regularization was used to avoid the chances of overfitting.

Breast Cancer Classification (2019)

- A deep neural classifier was developed to classify mammograms into benign or malignant breast cancer. The dataset was taken from the UCI repository. A lot of data cleaning had to be carried out such as replacing the missing values, scaling the data through standardization technique, etc. This processed data was fed to a deep neural classifier of three layers. The architecture of the neural network includes three layers with the ReLu activation function and a sigmoid activation function in the output layer. Binary cross-entropy was used as the loss function and 'ADAM' as the optimizer.

Computer Aided Diagnosis of Brain Tumors (2018-2019)

- Developed a Computer-Aided Diagnosis system to detect and classify brain tumors from MRI images of the brain. Various supervised machine learning algorithms such as K-NN, Decision Tree, and Random forest classifiers were implemented and their performances were recorded. The images were processed for enhancing the texture and image quality and various shape and texture features such as area, perimeter, and GLCM features such as energy, homogeneity were extracted from the image dataset and were fed to the classifier. The best performance was recorded for an ensemble of decision trees or a Random Forest classifier. The Random Forest classifier managed to achieve an accuracy of 84% over the test dataset.

Natural Language Processing (2019)

- Sentiment analysis was performed on the dataset containing the reviews of a restaurant. The model was developed using the concept of Natural Language Processing. Data was badly organized and hence a lot of data preprocessing from removing the punctuations to removing the irrelevant words using the process of stemming had to be carried out on the dataset. A bag-of-words model was build using this corpus of data. This bag-of-words model was then fed to a Naive Bayes classifier to classify the reviews into positive or negative reviews.

Movie Recommendation System (2019)

- Developed a movie recommendation system using the concept of item-based collaborative filtering technique. Movielens dataset was fed to the model. The correlation technique was used to find the similarity scores of the movies. Movies are recommended by the system based on these similarity scores.