Vijay S. Deshpande

Computer Science and Engineering

IIIT Vadodara

[Github](#)

M.Tech

Contact: +91 7022151364

Email: deshpandevijay@hotmail.com

[Linked In](#)

Education

Degree	Institute	Year	CPI/Aggregate
M.Tech.	Indian Institute of Information Technology Vadodara	2017-2019	7.41
B.Engg.	Amravati University, Maharashtra	2010-2014	7.9
Intermediate/+2	Narayana Junior College	2008-2010	87.30%
High School	St Aloysius Convent School	2007-2008	80.30%

Skills

Area's of Interest :	Machine Learning, Data Analytics, Computer Vision, NLP.
Application :	Image reconstruction, registration and segmentation, text translation, classification.
Tools and Frameworks :	GAN's, autoencoder, convolutional neural network (CNN), recurrent neural network (RNN), spatial transformer network (STN), convnet regressor, LSTM, GRU, Python, Pytorch, Tensorflow, numpy, GIT, Anaconda, Android Studio, Jupyter, R Studio, Spyder.

Work Experience: 2 years

Perk.com Inc   **Duration : Oct'14 - Aug'16**
Designation: Software Engineer   **Location: Bengaluru**

- Responsible for end to end delivery of android apps.
- Worked on Android sdk, Android NDK, JNI, JSON, Webview.
- Design Patterns Used : MVC, Singleton, Adapter .
- Good experience with Ad sdk's and materail Design.

Projects

Medical image reconstruction using Bayesian deep learning.
Guide : Prof Jignesh Bhatt

- Currently working on the intersection of Bayesian inference and deep learning for medical image reconstruction.
- Developed end-to-end network consisting of Bayesian downsampling and upsampling convolution layers, pooling layers and batch normalization.
- Lungs CT and cardiac MRI dataset were used.
- Got an accuracy of 96% when compared with its actual ground truth.
- Used pytorch, numpy, pandas, seaborn as libraries.

Data Augmentation Using Deep Convolutional GAN.

- Used deep convolutional GAN's to augment data.
- Training was done in min-max way with two networks i.e, generator and discriminator where input noise vector was taken from gaussian distribution.
- Dataset used Celeb-A dataset
- Tools used pytorch, spyder and matplotlib.

Text translation using RNN, LSTM and attention mechanism.

- Language translation from one language to another using RNN, GRU
- Used autoencoder architecture along with attention Weights.
- Used teacher forcing as a means to train the network.
- Dataset used is of eng-fra translation

Offline signature verification using siamese convolutional network

- Used siamese convolutional neural network which contain two identical subnetwork.
- Multi-input CNN architecture, dataset used CEDAR.
- Handling variable size images using spatial pyramid pooling layer.
- Attained accuracy of 78%
- Tools used pytorch, skimage etc.

Image alignment using Spatial Transformer Networks (STN).

- Used Fully convolutional Neural network (FCN's) for end to end learning with bilinear interpolation.
- Implemented affine parameter estimation and flow point field.
- Loss functions used - NCC Normalized cross correlation, structural similarity index.
- Dataset used was MNIST and attained accuracy of 83% on test dataset
- Used pytorch and skimage for image resizing.

Prediction using Random forest.

- Performed data preprocessing, data wrangling, visualization, normalizing and inferring from distribution of data.
- Used Principle Component Analysis for dimensionality reduction. Outlier detection using boxplot, cross validation approach, feature selection using feature importance, scaling.
- Libraries used sklearn, seaborn, numpy, pandas.
- Random forest approach was giving better performance compared to other models with accuracy of 89.90 on test data.

AWARDS AND ACHIEVEMENTS

- Completed Deep learning and Neural Networks certificaton from **deeplearning.ai** .
- Selected as a student participation for Summer school on Computer Vision and Advance Machine learning at **IIIT Hyderabad**.
- Awarded **certificate of merit** in Maharastra Talent Search Examination (MTSE).
- Secured a branch change from IT to Computer Sc. and Engg based on excellent performance in First year.

POSITION(S) OF RESPONSIBILITY

Teaching Assistant   **Duration : Aug'17 - Current**

- Teaching Assistant for database management systems Lab at IIIT Vadodara.
- Formulating the topics to be conducted during lab session and evaluation of students.

Team Leader   **Duration : Sept'12 - Mar'13**

- Team leader and front end developer for the project '**Security system for confidential data**'
- The project was part of **IBM's** The Great Mind challenge competition.
- Was responsible for successfull submission of project before deadline.
- Managed and led team for semi-finals at Mumbai.

Core committee Member   **Duration : Jan'14 - Feb'14**

- Responsible for successful execution of 6 events having a footfall of 1000 students.
- Worked as an interface between Dean and individual Event co-coordinators.

INTERESTS AND HOBBIES

- Reading books, Surfing internet, Playing Table tennis.