Tushar Chandra

Research Scholar

Email **tushar.c@research.iiit.ac.in**
Phone **+91 844 7399475**
Github **tusharchandra19**
Website **www.linkedin.com/in/tushar-chandra-iiith**

SUMMARY

I am passionate about building generalized deep learning models that can learn efficiently and effectively like a human brain does. I also like problem solving and feel that data structures can play a great role in making non-deterministic machine learning algorithms faster.

WORK

Research Assistant / November 2019 - Present

I.I.I.T., Hyderabad
Worked on applications of Computer Vision and Convolution Neural Networks in Biometrics with focus on fingerprints mainly. Planning to develop a surveillance camera system which helps in face recognition in a given area with equal precision.

`Python` `C++` `PyTorch` `CNN` `Pandas` `Numpy` `TensorFlow`

Summer Research Intern / July 2018 - August 2018

National Institute of Hydrology - Roorkee, India
Predicted groundwater levels on data collected by scientists in Mewat district of Haryana using LSTM so that necessary water conservation steps could be taken.

`Python` `Pytorch` `Deep Learning` `Numpy` `Pandas` `RNN` `Latex`

Summer Research Intern / Jun 2017 - July 2017

I.I.T. -Roorkee, India
Designed an algorithm which renders a 3-D sphere known as naive sphere formed from unit cubes. We further analyzed the properties of neighbors of these cubes.

`C++` `MeshLab` `Data structures` `Algorithms`

SKILLS

Languages: Python, C++, C, SQL **Tools:** PyTorch, OpenCV, NumPy, Pandas, , PyTest, Docker, TensorFlow, OpenCV.

Other: Version Control, Data science and ML, Deep Learning, Computer Vision

PROJECTS

- **Detection of non-distal attacks** in **fingerprints** by developing a state-of-the-art super light weight CNN model that gives the best accuracy and inference time.
- **Semantic segmentation of distal phalanges** from fingerprints using a CNN segmentation model called Mask R-CNN.
- **Implementation of Warp GAN** where we convert live images to caricatures.
- **In-Memory Key-Value Storage Software in C++**
  - Implemented in-memory storage database using Red-Black Tree and Hashed table data structure.
  - Supports get, put, delete and other API calls with upto 10 million entries supported on 8GB of RAM.
  - Supports multi-threading and built from scratch with no use of external libraries.
  Supports get, put and other
- **Aspect based summarisation of reviews** where we try to do sentiment analysis of online reviews. Techniques used **Dependency parsing, LDA and sentiment analysis**
- **Spoof detection** in face screen locks using technologies like - **OpenCV, CNN**.
- **Analysis of stock prices using various machine learning techniques** - **Linear Regression, Decision Trees, SVM, LSTM**

EDUCATION

Computer Science with specialization in Deep Learning - 2019-present

MS by Research, I.I.I.T. - Hyderabad, India
Thesis Computer Vison and Computational Photography

Computer Science and Engineering - 8.14/10 - 2019

B.Tech, Indraprastha University - New Delhi, India
Thesis Spoof detection of faces in face screen locks

Achievements

- Secured rank of 531 among 99,932 candidates in GATE CSE 2019.
- Secured 800/800 in AMCAT's National Employibility test
- Secured 99 percentile in CoCubes Employibity test among 20000 candidates.

Extracurricular

- Member of Parliament which is a student representative body of IIITH. July 2021-present.
- Member of APEX committee which introduces fresher students to campus and activities and ensure their safety and well being on campus.**2020-present**
- Event head of teaching unprivileged children at Rotaract club of MSIT **2015-2016**