Piyush Tiwary

piyushtiwary31@gmail.com | piyush.ee17@iitp.ac.in | +91-9834943057

LINKS

Github:// **thebackpropogator**
LinkedIn:// **thebackpropogator**
Quora:// **thebackpropogator**

EDUCATION

IIT PATNA | 2017-2021
B.Tech Electrical Engineering
CGPA: 8.25/10

L.V.H COLLEGE | 2015-2017
Intermediate/+2 IN MATHS, PHYSICS, CHEMISTRY
Percentage: 79.84%

K.V.CRLY SOLAPUR | 2003-2015
Matriculation | C.B.S.E
Scholar of the Batch
CGPA: 10/10

WORK INTERESTS

- Deep Learning
- Acoustic Deep Learning
- Deep Learning Based Indoor Localisation
- Data Science
- Computer Vision
- Data Science

SKILLS

LANGUAGES
C • C++ • Python • Haskell • Java • Bash

DEEP LEARNING TOOLS
Tensorflow • PyTorch • Caffe • Keras

DATA ANALYTIC SOFTWARES
R • Matlab

TOOLS LIBRARIES
Docker • Flask • SpringBoot • LaTeX

EXPERIENCE

ONGOING PROJECT | Dr. Sudhir Kumar, Assistant Professor IIT Patna | March 2019 - Till Date | IIT Patna

- Objective of the project is to develop a Deep learning model that is able to accurately localise smart devices based on there WiFi RSS values or Inertial Measurement Unit (IMU) sensor readings. It also focuses on smartly handling noise and Device heterogenity. The work is in progress and soon to be published in a journal.
- Data (8000 samples of 24 sensors) has been collected to test the method in real time. The end result shall be compared with State of Art techniques used for node localisation.

RESEARCH & DEVELOPMENT INTERN | Dr. Manish Gupta, Chair Professor | May 2019 - July 2019 | IIIT Bangalore

- Worked as a part of R&D Team of VideoKen and explored different methods of Speaker Diarization. Studied and made a *Tensorflow* implementation of Google's **UIS-RNN**.
- Made a primitive model which is able to **diarize 2 speakers** with maximum delay of 30 seconds. This model is currently in development stage and will be deployed to diarize "Interview" type of audios.

CRIO SUMMER OF DOING - 2019 | Crio.Do | May 2019 – June 2019

- Developed Back-end of Q-Eats (a food Ordering App) using Spring framework in Java. Learnt and implemented many Industry related tools/technologies like - REST APIs, MongoDB, Caching, Multi-threading, Docker and RabbitMQ. Made an Order Page for QEats in the Capstone Challenge enabling user to see his/her orders and provided various functionalities.

HYBRID CLASSIFIER FOR SMART AGRICULTURE SYSTEMS
Dr. Sudhir Kumar, Assistant Professor IIT Patna | May 2018 - September 2018 | IIT Patna

- Worked on Berkeley's Intel Lab Dataset to Localize the positions of wireless sensor nodes. Did an extensive literature review on various application of ML algorithms for Indoor localisation. Proposed a Hybrid classifier approach which is basically a combination of Random Forest and Decision Tree to localise the sensors. Achieved an overall **95% accuracy** and **1.16m localization error**.
- Work published at **ICDCN'19** held at IISC Bangalore.

PUBLICATIONS

- Ankur Pandey, **Piyush Tiwary**, Sudhir Kumar, and Sajal K Das. A hybrid classifier approach to multivariate sensor data for climate smart agriculture cyber-physical systems. In Proceedings of the 20th International Conference on Distributed Computing and Networking, ICDCN 19. ACM, 2019. "click here to view".

ACHIEVEMENTS

- Secured a Global Rank of **60** in Codechef July Long Challenge'19 .
- Specialist(Blue) on Codeforces and 4-star(Purple) on Codechef.
- Ranked in top 5000 on UVa Online Judge.
- Secured **All India Rank 4880** in JEE Advanced 2017 among **150,000** candidates.

OTHERS

- Proficient in written and Verbal communication.
- Good Presentation skills.
- Public Speaking is another passion of mine and I have hosted various events including our college fest, Anwesha.
- Team Player
- Innovative

PROJECTS

HISTORY SCRAPPER | Google Chrome Extension | July 2019 – Present

- Building a Chrome extension which provides user with their Browsing history and summary.
- The aim is to deploy Deep Learning techniques to predict most likely site the user is going to visit.
- Built the backend of the extension using Flask framework in python.

NOTES SEPERATOR | Developer Student's Club | May 2019 – July 2019

- Developing an app for students of IIT Patna which can automatically detect whether a given image is of someone's notes or not and will suggest you to delete them.
- Implemented different CNN architectures such as LeNet, AlexNet, VGGNet, GoogleNet and ResNet for classification.

CRIME PREDICTOR | Data Science Course Project CS244 | Jan 2019 – April 2019

- Project to Forecast crimes in the city of California using OSN dataset.
- Using various ML algorithms (Decision Tree, Random Forest, SVM, Naive Bayes, etc) to see which one best fits the data most accurately.

CELVIKA | ChatBot | Jan 2018

- Used the concept of **LSTMs** and **RNNs** to make a Real time primitive chatbot capable of doing conversation through GUI (like command line or shell).
- The bot is modeled using Tensorflow's seq2seq module with attention. The architecture uses 3 layers which can be configured to be either LSTM or GRU based.

POSITIONS OF RESPONSIBILITY

PROJECT LEAD | Developer Students Club IIT Patna | March 2019 – Present

- Mentored 2 Deep Learning Based projects - Notes Seperator & Interview Assistant.
- Conducted classes and workshops for students to make them familiar with Deep Learning and tools like tensorflow and pytorch.
- Built the backend of the extension using Flask framework in python.

MENTOR | Student Mentorship Programme | August 2019 – Present

- Academic guide to five freshmen year students over the period of two years

BADMINTON COORDINATOR | IIT Patna | August 2018 – Present

- Lead the Badminton team of IIT Patna in various Sports tournament. Represented IIT Patna in 51st (at IIT Madras) and 52nd (at IIT Guwahati) **Inter IIT Sports Meet** along with 4 other teammates