

# Himanshu Panwar

Senior Undergraduate, IIIT Bhopal  
Department of Information Technology

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## EDUCATION

### Indian Institute of Information Technology

Bachelors of Technology in Information Technology(IT); GPA: 8.85

Bhopal, India

Aug. 2018 – May 2022

## WORK EXPERIENCE

- **Machine Learning Intern** | Prof. Nilay Khare (HOD Computer Science, MANIT Bhopal) May 21 – Present
  - Developed data privacy algorithm for large datasets.
  - Implemented Cluster-based approach for finding the correlation between the dataset.
  - Developed Algorithms in **Python** using **Pyspark** for managing 1.5 Million rows of data.
- **Artificial Neural Network Intern** | *TantraByte Pvt. Ltd.* May 20 – Aug. 20
  - Designed a **Social distancing** web app implemented on a deep learning-based approach for observing social distance.
  - Solved the problem using the State-of-the-art framework **YOLO** instead of **Mask-RCNN** works well in real life scenario.
  - Improve the speed 3FPS to 40 FPS for real-life live video surveillance camera using State-of-the-art framework **YOLO**.
  - The front-end uses **HTML, Javascript, CSS**, while the back-end is based on **Tensorflow, Flask** using **python** deployed on **GCP**.
- **Software Development Intern** | Prof. Gaurav Gupta (Scientist 'E' at **Meity**) Oct. 19 – Jan. 20
  - **GM-LHCT** helps collate the sequence of events between two individuals and provide their location history in **JSON** format using **Takeout**.
  - The developed tool can assist a digital forensic investigator in the Reconstruction of events.
  - The authorization of the victim's and culprit's location based on their reported statements predicts the crime pattern.
  - The front-end uses **Tkinter**, while the back-end is based on **MySQL in Python, Google map API**, and executable file available at **Sourceforge**.

## ACADEMIC PROJECTS

- **OCR Text Recognition Web Application** Mar. 21 – Apr. 21
  - Designed a web application to detect boxes and recognize English text from each box using a deep neural network.
  - Designed a pipeline using a **CRAFT** pre-trained model for text detection and an **RCNN** model for recognizing text from each of the boxes.
  - The front-end uses **HTML, Javascript, CSS**, while the back-end is based on **Flask** and **PyTorch** framework using python.
  - The developed project was deployed on a **google cloud platform** and **AWS EC2 instance** (<https://imagetotext-314018.ucr.appspot.com>).
- **Invoice-Digitization** Feb. 20 – Mar. 20
  - Calculated the total earnings of Bojack's restaurant using invoice digitization.
  - Extracted text data from an image/pdf of an invoice using **digital image processing** and **the deep learning model**.
  - All the useful data was extracted from the photo-filled data into a structured layout after scanning the image.
- **Face and Emotion detection on live video** Mar. 20 – Apr. 20
  - The **face detection and Emotion detection** of tom and jerry in the video dataset.
  - Calculated the **screen time** of both TOM and JERRY.
  - The training set **accuracy is 100%**, and the validation set **accuracy is 89%** using the deep learning model **VGG-16**.

## TECHNICAL SKILLS

- **Programming Languages**- C, C++, Python3.
- **Web Development**- HTML, CSS, PHP, MySQL, Bootstrap (Intermediate).
- **Machine Learning frameworks**- Scikit-Learn, Keras, Tensorflow, Pandas, Numpy, Matplotlib, OpenCV, Pyspark.
- **Relevant coursework**- Data Structures and Algorithms, DBMS, Operating System, IoT, Artificial Intelligence, Machine Learning(Andrew Ng), Deep Learning, Computer Vision, Natural Language Processing.

## PUBLICATION

- "IMPLICATIONS OF GOOGLE MAP LOCATION HISTORY ARTIFACTS ON DIGITAL FORENSIC INVESTIGATION" Jan. 2020  
(*IFIP WG11.9 2020: Sixteenth Annual IFIP WG 11.9 International Conference on Digital Forensics*).

## POSITION OF RESPONSIBILITY

- Training and Placements cell member at IIIT Bhopal. May 21 - Present
- Presented a research paper at the International Conference on Digital Forensics. Jan. 2020
- Core team member of Robotics club at IIIT Bhopal. Jan. 19 – Jun. 19

## ADDITIONAL ACHIEVEMENTS

- Secured 1st rank in B. Tech Second year.
- **HackerEarth**: Secured 35 rank in Machine Learning competition.
- **Codechef**: 4-Star competitive coder.
- **Codechef**: 140 Rank June long challenge.