Curriculum Vitae

Ravsehaj Singh Puri

EDUCATION

Thapar Institute of Engineering & Technology (TIET), India — **PATIALA, INDIA**
Bachelor of Engineering, Computer Engineering | CGPA 8.77/10.0 — Jul'17 to Jun'21

WORK EXPERIENCE

Data Analytics Intern, Eightfold AI — **NOIDA, INDIA**
1) Working in Insights and Analytics team to build infrastructure to improve efficiency of existing analytics workflows. Feb'21-Jun'21
2) Working on client-side projects in a variety of industries to deliver solutions for talent gap, skill gap and diversity inclusion.
3) Writing scripts to automate data extraction, data cleaning and data wrangling for insights extraction.

Visiting Research Intern at People, AI and Robots lab, University of Toronto — **REMOTE**
Supervisor: Prof. Animesh Garg — Jan'21-Mar'21

Undergraduate Research Assistant, Thapar deepfake detection research group — **PATIALA, INDIA**
In collaboration with Tel Aviv University, Israel — Jul'20 to Nov'20
Supervisor: Prof. Parteek Kumar Bhatia
Worked with a team of 3 researchers to develop an efficient data pipeline for sub-setting large deepfake datasets into smaller subsets; ensuring scalability and computational efficiency; proposed a deep VGG16-LSTM model for deepfake detection.

- Handling large deepfake datasets with a focus on Celeb-DF
- Analyzing pixel-level and temporal CNN architectures
- Documentation of results and observations and manuscript compilation Code

PROJECT EXPERIENCE

Machine Learning and Computer Vision

- **Multi Object Tracking** — **REMOTE**
  Collaborated with a team working under Prof. Animesh Garg at PAIR lab, University of Toronto — Oct'20 to Dec'20
  Objective is to Implement MOT on procedural datasets like 50 salads dataset which have varied class and instance settings as compared to the baseline approach
  - Performed extensive research in existing State of the Art models in Multi-Object Tracking (MOT) like FairMOT and CenterTrack
  - Performed their implementation by reproducing quantitative and qualitative results
- **Final year capstone project: Computer Vision based autonomous food delivery bot** — **PATIALA, INDIA**
  Collaborated with a team of 4 students for our undergraduate thesis at TIET, Patiala — Jan'20 to Nov'20
  - Developed an autonomous food delivery vehicle using AI powered computer vision
  - Includes a cross-platform mobile application for booking and tracking and IoT based locking
  - Autonomous steering angle model based on NVIDIA end-to-end architecture Code

AI for Medicine — CHANDIGARH, INDIA

- **Detecting Medical Issues from Chest X-Ray Images using Convolutional Neural Networks and Gram-Cam to Visualize the Results** — Apr'20 to May'20
  - Capable of detecting medical issues like Atelectasis, Cardiomegaly and Edema
  - Employed Grad-CAM technique to construct a gradient based heat map to show location of the disease
- **Building Medical Prognostic Models using Machine Learning** — May'20 to Jun'20
  - Implemented two approaches to develop a model for predicting the survival probability of a patient after treatment
  - The model is trained on the PBC dataset which stands for Primary Biliary Cirrhosis
  - This project was a part of AI for Medicine specialization Code

Machine Learning and Data Analytics — PATIALA, INDIA

- **Twitter Sentiment Analysis** — Nov'19 to Dec'19
  - Developed a model to classify a tweet as positive/negative, trained on a dataset of 10,000 tweets
  - Trained and compared Logistic Regression and Naive Bayes model Code
- **Development of Python Package for TOPSIS Technique** — Jan'20 to Feb'20
  - Implemented TOPSIS technique in Python as part of Data Analytics and Visualization course
  - Developed a python package and pushed it to PyPI.org Code

CERTIFICATIONS

- **AI for Medical Diagnosis** (*Coursera*) Apr'20
  - Using deep learning and computer vision to detect diseases from chest X-ray images, detecting tumor from brain MRI images
  - Focused various image pre-processing techniques and evaluation metrics specific to medical imaging
- **AI for Medical Prognosis** (*Coursera*) May'20
  - Studied various survival models which predict the survival probability of a patient after treatment
  - Trained and evaluated two survival models– Cox proportional hazard model and Random survival tree model
- **AI for Medical Treatment** (*Coursera*) Jun'20
  - Learned different approaches which use machine learning to assist medical treatment
  - Trained model which can read unstructured radiology reports and convert it to structured format
  - Learned about medical question answering systems and how to interpret machine learning models
- **Natural Language Processing with Classification and Vector Spaces** (*Coursera*) Jul'20
- **Bitcoin and Cryptocurrencies** (*eDX*) Jun'20

TECHNICAL SKILLS

- **Programming Languages -** C, C++, MATLAB, HTML, CSS, Python, Linux Shell and Oracle SQL
- **Deep Learning Frameworks -** TensorFlow, PyTorch and Keras
- **Image Processing Frameworks** - OpenCV, Scikit-image, Scikit-Video
- **Data Analytics** – Microsoft Excel, Python Scripting and Automation