Achleshwar Luthra

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EDUCATION

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI

B.E. (Hons.) in Electrical and Electronics
Aug'18 - Present | Pilani, India

HOLY HEART PRESIDENCY SCHOOL

XII Grade | ISC Board | 93.25%
X Grade | ICSE Board | 94.40%
Amritsar, Punjab, India

COURSEWORK

UNDER-GRADUATE

Neural Network and Fuzzy Logic*
Digital Image Processing*
Discrete Mathematics
Differential Calculus
Probability and Statistics
Complex Analysis and Linear Algebra

ONLINE

CS 229 Machine Learning (Stanford)
CS 230 Deep Learning (Stanford)
CS 231N Convolutional Neural Networks for Visual Recogntion (Stanford)
Deeplearning.ai's Specialization

SKILLS

PROGRAMMING

Tensorflow • Keras • PyTorch • Python
MATLAB • Pandas • Numpy
C • C++ • HTML

TOOLS

Anaconda • Sublime Text • Google Colab • Visual-Studio • Jupyter Notebook • Github • Kaggle Kernel

OTHER PROJECTS

• DIABETIC RETINOPATHY DETECTION USING CNN
• CNN FOR SENTENCE CLASSIFICATION
• IMAGE CLASSIFICATION ON BENCHMARK DATASETS

EXTRA-CURRICULAR

• Dance Club BITS Pilani, Team Lead
• Power Lifting Team BITS Pilani, Member

WORK EXPERIENCE

CSIR-CENTRAL ELECTRONICS AND ENGINEERING RESEARCH INSTITUTE | Computer Vision Research Intern

October 2020 – Present | Rajasthan, India
- Building a Compressive Sensing based Fall Detection system for user's privacy.
- Implemented Inflated 3D ConvNets to experiment on HAR-UP Fall Dataset.
- Implemented non-scalable Compressive Sensing Framework.
- Working on a scalable approach to Compressive Sensing that can be integrated in the entire architecture.

THE MICKEY MOUSE LAB | Artificial Intelligence Researcher

October 2020 – Present | Karnataka, India
- Core team member of a startup focusing on self-driving technology.
- Working on 3D Scene Understanding in a Dynamic Environment.
- Used Sparse Optical Flow for Motion Prediction.

INVERSION LLP | Machine Learning Intern

June 2020 – Aug 2020 | Karnataka, India
- Built a sentiment analysis bot for the commercial use of company.
- Explored pre-trained models like Flair for transfer learning.
- Achieved accuracy of 65% with LSTM and Bag of Words model.

PASS CONSULTING GROUP | Data Science Intern

May 2020 – June 2020 | Telangana, India
- Built Election Prediction using classical ML and Data Analytics Techniques.
- Conducted descriptive statistical anaysis of elections in Chittoor (a district in Andhra Pradesh) from 1978-2019.
- Experimented with various multi-variate regression techniques like Lasso Regression, Linear Regression and Bayesian Linear Regression.

PROJECTS

MOTION OBJECT RECOGNITION

Sep 2020 - Present | BITS Pilani
- Exploring the possibility of simulaneous localization and classification of objects in a video.
- Implemented two-stage detectors like RCNN, Faster RCNN and one-stage detectors like YOLO from scratch.
- Implementing 'Tracktor' proposed in 'Tracking without bells and whistles'.

OPTICAL CHARACTER RECOGNTION

Sep 2020 | Self-motivated
- Reproduced classical papers like LeNet-5, ResNet50 and VGG-16.
- Used meta-heuristic optimization techniques such as Simulated Annealing.

ELECTROMAGNETIC MODELLING USING ANN

Jan 2020 - May 2020 | BITS Pilani
- Conducted a deep study on the design of Micro-strip Patch Antenna and the role of Artificial Neural Networks in its modeling under Dr. Navneet Gupta.
- Explored evolutionary algorithms like Genetic Algorithm.
- Implemented Radial Base Function and obtained accurate, and sufficiently fast results.