Deepak Yadav

Consultant at Sony (AI and Machine Learning)

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Experience

- **Sony** — Bengaluru, Karnataka
  Consultant (2 Years 4 Months) — *Jun 2021 - Present*
  - **Contribution**: Worked as a key contributor on the Esensor project, focusing on edge AI implementation using Sony's IMX500 device. Evaluated TensorFlow, Keras, and PyTorch layers for compatibility and performance on the IMX500 hardware, ensuring seamless integration of machine learning models. Conducted comprehensive analysis of model performance across various model types, including float, quantized, and edge formats, optimizing inference processes.
  - **Contribution**: Contributed to the SFAID project, focused on the development and deployment of AI models for smart factory applications. Spearheaded a Proof of Concept (PoC) initiative aimed at automating the detection of the number of screws in a tray, showcasing the potential for real-world industrial packaging applications. Took charge of the end-to-end AI model development, deployment, and performance evaluation process, emphasizing compatibility with the IMX500 device.
  - **Tools**: Computer Vision, Tensorflow, Pytorch, Scikit-learn, Python, Streamlit, Object-oriented design.
- **Activa Inc.** — Hyderabad, Telangana
  Associate Data Scientist (1 Year 9 Months) — *Dec 2019 - Apr 2021*
  - **Contribution**: Led the development of an innovative AutoML platform that enables users to upload datasets of various data types, including images, raw text, and time series, and seamlessly train machine learning models. The platform's user-friendly interface allows users to initiate model training by simply hitting a "train" button, with the system automating the entire model selection and training process. Contributed significantly to the AutoML pipeline's design and implementation, particularly in the area of hyperparameter selection using genetic algorithms.
  - **Tools**: Tensorflow, Pytorch, Scikit-learn, Python, Docker, Flask, AWS EC2, AWS Kinesis, REST, CI/CD.
- **Activa Inc.** — Hyderabad, Telangana
  Data Science Intern (5 Months) — *Aug 2019 - Dec 2019*
  - **Contribution**: Developed a computer vision model using Mask-RCNN, a state-of-the-art instance segmentation algorithm, to detect internal cracks within aircraft engines. Leveraged deep learning techniques to create a highly accurate and efficient solution, enhancing the reliability of crack detection.
  - **Tools**: Computer Vision, Object Detection, Instance Segmentation, Mask-RCNN, Python, Tensorflow, OpenCV.

Education

- **Indian Institute of Engineering Science And Technology** — Howrah, WB
  Master of Technology in Information Technology; GPA: (7.0/10.0) — *Aug. 2017 – June. 2019*
  - **Relevant Coursework**: Machine Learning, Algorithms, Information and Coding Theory, Advanced Database Management System.
- **United College of Engineering and Research** — Allahabad, UP
  Bachelor of Technology in Electronics and Communication Engineering; GPA:(6.8/10.0) — *Aug. 2010 – July. 2014*
  - **Relevant Coursework**: Signal and Systems, Microprocessors, VLSI Design and Embedded System.

Open Source Projects

- **OSIC Pulmonary Fibrosis Progression**: Kaggle competition to predict lung function decline. (scored Top 6%) [Kaggle]
- **Transformer Based Language Translation**: Language translation system that translates English text to Hindi using a Transformer-based neural network. [github]
- **Robustbase**: Created Python library for statistical estimation with 23,000+ downloads. [github]
- **HyperTune**: Build a Hyper-parameter optimization library using genetic algorithms. [github]
- **WSNFault**: Statistical fault detection algorithm for Wireless Sensor Networks (WSNs). [github]