PRAVEEN KUMAR SRIDHAR

Data Scientist

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WORK EXPERIENCE

Data Scientist

Intellect Design Arena Ltd.

June 2018 – August 2021 Chennai

- Experimented with the best OCRs like **tesseract, easyOCR, paddleOCR, aOCR** etc.
- Combined **CRAFT** with **tesseract** to produce extremely accurate results.
- Used **image processing** techniques and **tesseract with CRAFT** to extract data from **MRZ** (Machine Readable Zone) in passport images.
- Designed, built, and shipped **Deep learning models like LSTMs, Bidirectional LSTMs, and Bidirectional LSTMs with attention**. These models achieved **accuracy's upward of 90%** in the production environment. Also built a module to capture feedback from users.
- Helped design, build and ship a complex ensemble classifier that is built using **BERT** and **ROBERTA**.
- Built an entire **NLP pipeline** using **RabbitMQ** (from tokenization to spell checking) which runs on multiple servers which are completely customizable wrt the number of workers/consumers and the flow.
- Optimize t-SQL procedures by implementing them through **Spark** modules written in **Scala**, complete with auto spin EMR clusters, actively monitoring their status through custom spark listeners.

Data Analyst Intern

Allsec technologies Ltd.

Feb 2018 – March 2018 Chennai

- Worked on employee attrition rate in both **R** and **Python**. I initially used many prominent algorithms like **classification trees, SVM, random forest**. Finally, I settled on a simple **artificial neural network** which yielded better results.

PERSONAL PROJECTS

- **Poetry Generator**: Trained **Bidirectional LSTM neural networks** to generate poems in 3 languages (English, Hindi, Tamil) the last 2 being regional languages.
- **AI Flappy bird**: Built the traditional flappy bird game using **pygame** and further trained an AI using **NEAT** (NeuroEvolution of Augmenting Topologies) to play the game. The AI trained quickly and has achieved a high score of 1000 and plays the game flawlessly.
- **Breast cancer Detection**: Trained a **deep neural network (ResNet-50)** to classify patches of Breast Cancer (BCa) specimens as positive or negative for IDC, the most common form of breast cancer. **The model achieved an accuracy of 85%**.
- **Blood cells detection**: Trained a YOLOv4 algorithm to detect RBCs, WBC, and Platelets in a given sample.**This model achieved an accuracy of 82%**.
- **Art generation**: Used a pre-trained VGG-19 to train a model that generates an image given a content image and a style image. The generated image has the content from one and the style from the other image. This is an example of **neural style transfer**.

EDUCATION

Master's in Data Science

Northeastern University

2021-2023 Boston

GPA: 4.0/4.0

B.Tech in Computer Science

VIT University

2014 – 2018 Chennai

Cumulative GPA: 8.93/10

SKILLS

- **Languages**: Python, R, Scala, Java, C++, C
- **ML & DL Packages**: TensorFlow, Keras, Torch, sklearn, Seaborn, Plotly, Matplotlib, NEAT, OpenCV, tesseract, EasyOCR.
- **Databases**: MongoDB, Redis, SQL Server, PostgreSQL
- **Technical Skills**: NLP, Image Processing, Deep Learning, Machine learning (random forest, SVM, linear regression, logistic regression, Naive-Bayes), Data Cleaning & Interpretation.
- **Web Development**: HTML5, CSS3, JavaScript, Node.js
- **Development Tools**: Visual Studio Code, Jupiter Notebook, Rstudio, MATLAB, Weka, Tableau
- **Other**: Spark, Git, Agile Methodology.

CERTIFICATIONS

- **Natural Language Processing in TensorFlow**
- **Deep Learning Specialization** (Neural Networks and Deep Learning, Structuring Machine Learning Projects, Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization, Convolutional Neural Networks, Sequence Models)

AWARDS

- Was conferred with the **GEM award** for building the models and achieving the accuracy expected by the clients and my general contribution to the organization and team.
- My team won the **Chairman's Excellence Award** for our contribution to the organization.