Ajay Chinni

Machine Learning Engineer

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Professional Experience

Quantiphi — Bengaluru, India

Machine Learning Engineer — 9/2020 – Present

- **End-to-End Document Information Extraction Pipeline using CV and NLP**
  - Employed OCR to extract text from PDFs and utilized BERT, a language model, to generate text embeddings. Afterwards, I fine-tuned the BERT model to categorize documents and used Named Entity Recognition (NER) to extract valuable information from paragraphs the automation process reduced thousands of manual works.
  - Integrated the Detectron model to identify the location of tables and checkboxes, while utilizing the LayoutLM transformer to extract key-value pairs. Additionally, I utilized the Long T5 and Pegasus transformers for document summarization, which allowed for significant timesaving by avoiding the need to review the entire document.
- **Development of a Health Care Search Engine using NLP and Elastic Search**
  - Created a custom Transformer model architecture from scratch that can efficiently extract query embeddings from customer input in the search bar. By utilizing cosine similarity, the model identifies the closest and most relevant links to the user's query, resulting in a significant increase in user interaction time with the app.
  - Developing a new model using a Siamese network architecture, similar to the one used in SBert, and experimenting with various embedding techniques to improve its accuracy. I am also conducting experiments on the architecture and loss function to further enhance its performance.
- **Fashion Apparel Recommendation for E-commerce Client**
  - Utilizing a convolutional neural network, I was able to extract relevant features from images. I then developed both a fashion recommendation engine and an Apparel classifier using a custom neural network architecture. These efforts resulted in a significant increase in user engagement and improved feedback from customers.
- **Sales Forecasting using Time Series Models and Parallel Programming**
  - Utilized various forecasting models including LSTM, Prophet, SARIMA, and XGBoost to predict sales across 5000 outlets for the next month. To process the large datasets efficiently, I implemented PYSpark UDFs for parallel programming. This resulted in more efficient warehousing and significantly increased revenue.

Phenom People, Inc — Hyderabad, India

Machine Learning Engineer — 8/2019 – 9/2020

- **Developed AI user interface features to optimize HR team operations.**
  - Implemented ml models, including seq2seq with attention, BERT, and GPT algorithms, to deploy UI features such as auto-correct and auto-complete, resulting in a 5x increase in efficiency of hr ops.
- **Machine Learning-based and rule-based Image-to-HTML Converter**
  - Developed a machine learning pipeline utilizing Faster RCNN, YOLO, and OCR algorithms and some rule based algo to convert images into HTML code, resulting in a 90% reduction in website build times.

Zealeers Technologies — Bengaluru, India

Software Developer — 9/2018 – 6/2019

- Developed and performed testing on Android applications and Unity games, identifying and fixing bugs to improve the user experience and functionality of gaming apps and other utility apps.

Webtunix — Chandigarh, India

Junior Software Developer — 8/2017 – 5/2018

- Designed and developed an e-commerce website and RESTful API using Django, Python.

Education and Credentials

BTech in Computer Science - Lovely Professional University, Phagwara, India, 2017

Technical Proficiency

Machine Learning and Deep Learning • Python • Tensorflow • Keras • Pandas • Numpy • Matplolib • Deep learning • Natural language processing • Hugging Face • LLM • Computer vision • Open CV • GANS • Diffusion

MLOps and Deployment • Docker • Kubernetes • Rest API • MLflow. • MySQL • Git • Rest API • Pub/Sub • GCP