Chaitanya Ramayanam

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EDUCATION

University of Southern California, Viterbi School of Engineering — **Los Angeles, CA**
Master of Science in Computer Science – STEM Designated — December 2024

University at Buffalo, SUNY — **Buffalo, NY**
Master of Science in Engineering Science Data Science – **Transfer** — January 2023 - May 2023

GITAM University, GITAM School of Technology (GPA: 9.18 / 10.0) — **Hyderabad, India**
Bachelor of Technology in Computer Science and Engineering — June 2017 - June 2021
Honors: Awarded merit Scholarship every semester

EXPERIENCE

Tata Consultancy Services — Hyderabad, India
Assistant System Engineer - Sitecore Developer — June 2021 – December 2022

- Led a team of three to build and deploy an E-commerce website in Sitecore (DotNET) with MVC architecture for ASEAN and Japan regions with 0 production defects.
- Worked closely with client on the Revamp project, designed components, and developed features, moved to helix architecture, reduced code redundancy by 40%, and improved response time to under 20 ms.
- Created a New Relic Monitor utilizing Node.js and Selenium to identify website bugs, resulting in a 715-hour reduction in tester efforts.
- Achieved "Applause Award" 5 times for individual contributions and "On the Spot (Team) Award" for team collaboration.

RESEARCH

Mask RCNN with RESNET50 for Dental Filling Detection
IJACSA - DOI : 10.14569/IJACSA.2021.0121079 — Volume 12 Issue 10, 2021

- **Stack:** Mask RCNN, Resnet50, Computer Vision, Python, Pandas, Numpy, Neural Networks.
- Conducted research focused on developing a deep neural network for detection of dental fillings in radiographic images, demonstrating potential for further exploration and advancement toward enabling robotic dental treatment.

ACADEMIC PROJECTS

Optimizing Sentiment Analysis with XAI & Sentiment Knowledge Pre-processing

- **Technology Stack:** Explainable AI (XAI), Python, Jupyter Notebook, Lazy Classifier, NLP text features
- Building on the research done on SKEP, we have utilized more mathematical (PMI) and text-based features (Flesch Reading Ease Score, Gunning Fog Index, etc) to train a model using XAI for better results and a detailed analysis of the importance of each feature.
- Sentiment knowledge played a key role in obtaining good results followed by the features generated.

Text Summarization using LLMs

- **Technology Stack:** Python, Tensorflow, BERT, RoBERTA, GPT2, Google Colab
- Repurposed and Trained the LLMs GPT2, BERT and RoBERTA to generate concise summaries for a diverse range of text inputs (articles, paragraphs, etc..)
- The main challenge was the pre-processing of text for efficient model training.

GITAM web result extraction

- **Technology Stack:** BeautifulSoup, Network, OS, Excel, Python, Selenium.
- Guided the team in constructing an application to extract semester results, resulting in a remarkable 90% reduction in load time for students to access academic outcomes.
- Addressed primary challenge of enhancing adaptability within existing system managing various issues such as broken records, special cases, and missing student records.

SKILLS

***Languages*:** Python, Java, C++, C, R
***Data Science*:** Machine Learning (Supervised, Unsupervised, and Reinforced), Analysis (Matplotlib, Seaborn), Scikit Learn, Pandas, NumPy, Computer Vision, Neural Networks (Keras, TensorFlow, PyTorch)
***Tools*:** Git, PowerBI, VS Code, Jenkins, SiteCore
***Database*:** SQL, PostgreSQL, GraphQL, Vector Database (Pinecone)