




Venkata Harshitha Bathala

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Arlington, Texas, 76013

WORK EXPERIENCE

University of Texas at Arlington - Arlington, TX

GRADUATE RESEARCH ASSISTANT

07/2024-PRESENT

- I am responsible for both the **Development** and **Administration Tasks**, prioritizing and executing them based on the specific requirements and needs of the department.
- Developing a Simplified Portal for UTA's CSE Faculty** to streamline access to essential resources, previously buried under multiple layers of the university's website. This website will be accessible only by the CSE department.
- Extracted and organized crucial information**, such as inventory details, networking and security policies, supported operating systems and tools, completed projects, important forms, and request submissions for faculty queries.
- The technologies utilized include **HTML, CSS, JavaScript, and PHP** for the programming languages, **Apache** for the web server, and **MySQL** for the database.
- For **Administration Tasks**, I manage the setup and configuration of lab systems for the CSE department.
- LUKS encryption** was chosen after researching various methodologies, primarily for its wide compatibility across Linux distributions. Its robust encryption features, including multiple keys and secure disk wiping, ensure comprehensive data protection.
- Implemented automated **Bash scripts** for antivirus deployment to maintain system integrity and a user management script to automate student account creation, enforce access restrictions, and manage permissions within lab environments.
- Optimized virtualization resources**, such as VirtualBox, to ensure students receive enhanced computing capabilities for coursework.
- Monitored and maintained UTA's two servers**, specifically tracking the percentage increase in resource usage to ensure system health and maintain uptime.
- Operating systems worked on include **Debian-based** (Ubuntu) and **RPM-based** (CentOS, Red Hat, Fedora) systems.

DXC Technology - Chennai, INDIA

ASSOCIATE PROFESSIONAL SOFTWARE ENGINEER

03/2023 - 12/2023

- Served as an integral contributor to both Lean and Data Analysis teams, merging process improvements with advanced analytics.
- Led automation initiatives in Lean processes, achieved **5% FTE** savings and enhanced operational efficiency.
- Designed and optimized **Value Stream Mapping (VSM)** strategies to eliminate bottlenecks and improve workflow.
- Spearheaded automation management using **JIRA, UCML, and STA tools**, driving improvements in process reliability and operational efficiency.
- Developed dynamic dashboards in **Power BI** and **Tableau** for leading global brands in the automotive and luxury sectors, empowering data-driven strategic decisions.
- Integrated **machine learning models** for predictive analytics, enhancing forecasting accuracy and operational insights.

EDUCATION

UNIVERSITY OF TEXAS AT ARLINGTON - Arlington, Tx, United states

MASTER'S IN COMPUTER SCIENCE

2024-Present

CGPA – 3.8/4.0 (Up to 2nd Sem)

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES - Tirupati, AP, India

BACHELOR OF TECHNOLOGY - COMPUTER SCIENCE AND ENGINEERING

2018-2022

CGPA – 8.34

PROFESSIONAL SKILLS

- Operating System:** Linux, Unix, Windows
- Web Development:** HTML, CSS, JavaScript, PHP
- Programming languages:** C, Java, Python
- Data Analysis and Visualization:** Power Bi, Excel, Python, Tableau
- Cloud:** Microsoft Azure administrator, AWS
- Database:** SQL, MongoDB
- Libraries & Frameworks:** TensorFlow, Keras, PyTorch, Scikit-learn, NLTK, Pandas, NumPy, Matplotlib, Seaborn
- Shell Script:** bash
- Server:** Apache

TECHNICAL PROJECTS

Sentiment Analysis on Song Lyrics (Natural Language Processing):

- **Developed a sentiment analysis model** for highly imbalanced song lyric data (Spotify dataset: 5,000 positive, 3,000 negative, 700 neutral) using **Bidirectional LSTM** and **BERT** with **PyTorch**, **TensorFlow**, and **Transformers**. Applied text preprocessing techniques like **tokenization**, **stop-word removal**, and **lemmatization** using **NLTK**, while leveraging **Word2Vec** embeddings with **Gensim** for feature extraction. Balanced the training data using **stratified splitting** and **data augmentation** via the **nlpaug** package to address class imbalance.
- **Fine-tuned the Bidirectional LSTM** with various hyperparameter configurations, achieving **75% accuracy** on the validation set. Further improved the model's classification performance by implementing **BERT** via the **Transformers** library, reaching **77% accuracy**.
- **Evaluated model performance** by building **confusion matrices** using **Scikit-learn** and implemented a **real-time emotion prediction function** capable of analyzing song lyrics and classifying their emotions effectively.

Red-Blue Nim AI Agent

- **Developed an AI solution for the Red-Blue Nim Game** using the **Minimax algorithm** enhanced with **Alpha-Beta Pruning** to optimize decision-making and reduce computation time. Incorporated **heuristic evaluation functions** to ensure the AI could evaluate game states effectively and make optimal moves in real-time.
- **Built an AI agent** supporting both the standard and misère versions of the game, optimizing decision-making for both players. The agent utilized **Minimax with Alpha-Beta Pruning** to enhance strategic gameplay.
- **Implemented game logic and AI** using **Python** and object-oriented programming principles and designed a **command-line interface** with **depth-limited search** to improve performance and efficiency during gameplay.

Smart HealthCare Hub

- A full-stack healthcare management platform designed to connect patients, providers, administrators, and pharmacists. The system includes features such as secure authentication, appointment booking, health record management, symptom checking, and real-time messaging. Built using **React** for the front end, **PHP** for the backend, and **MySQL** for database management, with **Axios** handling API interactions for seamless communication. The project focuses on improving healthcare accessibility and efficiency through a user-friendly and responsive interface.

CERTIFICATIONS

- AWS Certified Cloud Practitioner
- Microsoft Azure Certification (AZ900)
- AIGPE LEAN SIX SIGMA YELLOW BELT CERTIFICATION