

# HEMANTH KUMAR REDDY TIYYAGURA

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**GHC 2023**

## EDUCATION

- **George Mason University** Virginia, United States  
*Master of Science - Computer Science(ML Concentration); GPA: 3.63/4* *January 2022-December 2023\**
- **SASTRA University** Thanjavur, India  
*Bachelor of Technology - Computer Science; GPA: 3.5/4* *July 2016 - July 2020*

## SKILLS

- **Technologies:** Machine Learning, Deep Learning, Open-CV, NLP, Cloud Computing(AWS), Full Stack, LLMs, Generative AI
- **Languages:** Python, SQL, HTML, CSS, C, Java
- **Frameworks:** Scikit, Django, NLTK, Streamlit, TensorFlow, Keras, Pytorch, Flask, Angular
- **Tools:** Power BI, Tableau, Kubernetes, Docker, Git, Informatica MySQL, MS Excel, MS Power Point, MS Word
- **IDE:** Google Colab, Spyder, Pycharm, JupyterLab
- **Platforms:** Windows, AWS, Linux
- **Soft Skills:** Leadership, Event Management, Time Management

## EXPERIENCE

- **Cognizant Technology Solutions** India  
*Programmer Analyst (Full-time)* *Aug 2020 - Nov 2021*
  - In my role at CTS, I spearheaded a transformative project that harnessed a suite of AWS services to build a robust and scalable **REST API** for retrieving customers data
  - Integrated AWS services including **API Gateway**, **CloudFormation**, **Lambda**, and **RDS** for efficient customer data retrieval, **IAM** for user access control
  - Leveraged **SQL** expertise to investigate and diagnose data discrepancies, anomalies, and performance bottlenecks within the **Tableau** data sources.

## PROJECTS AND PUBLICATIONS

- **EcoClassifier-Flask-based Garbage Classification Web App: (Flask, Python, CNN, Tableau, Pytorch, HTML)**
  - Developed an innovative Flask-based web application that utilizes CNN to classify waste materials into recyclable or organic categories with PyTorch to achieve accurate waste classification(92% accuracy)
  - The user-friendly web interface allows individuals to upload images of waste items and receive instant predictions, promoting sustainable waste management practices and raising awareness about recycling.
  - Integrated Tableau for data visualization, presenting waste management insights and trends.
- **Safe URL Inspector: (Python, Machine Learning, Selenium, SSL, Node JS, Telegram Bot, Tableau)**
  - Developed a comprehensive website and mobile app utilizing regular expressions to extract URLs from text messages and emails and Selenium for conversion of short-form URLs to their long-form equivalents
  - Utilized a Random Forest classifier, incorporating features such as page rank, the number of question marks, and semicolons in URLs, to classify URLs as genuine or fake
  - Played a key role in URL classification using Random Forest Classifier and also demonstrated the visualization of key statistics of fake URL cases and financial losses in USA using Tableau Tool.
- **Facial Emotion Recognition using Haar Cascade and CNN : (Python, CNN, Scikit, Pytorch, Computer Vision)**
  - Published a research project in Springer, presenting a comprehensive facial recognition system that integrated Haar Cascade for facial detection, data augmentation to enhance dataset diversity, and CNN for emotion classification.
  - Paper Title: **Recognition of Facial Expression Using Haar Cascade Classifier and Deep Learning**
  - IEEE Publication Link: [https://link.springer.com/chapter/10.1007/978-981-16-5529-6\\_27](https://link.springer.com/chapter/10.1007/978-981-16-5529-6_27)
- **BERT Model Implementation for Sentiment Classification: (Python, NLP, BERT, Encoders, Decoders, Attention)**
  - Implemented and fine-tuned a BERT model for sentiment classification of African tweets(12 different languages), achieving accuracy of 75% on African tweets .Successfully optimized hyperparameters for improved performance.
  - Contributed valuable insights into sentiment trends across African regions, demonstrating proficiency in NLP, machine learning model development, and data preprocessing.

## HACKATHONS AND AWARDS

- Achieved recognition in Blue Clarity "Bring Down Counterfeiting-2023" hackathon, winning the prestigious Best Overall Solution Student Prize (\$10,000) and earning the Crowd Source Prize(\$2,500) **Hackathon**
- Actively participated in an NLP-focused hackathon organized by NIT Patna, securing 81st position.