SRIKAR PRABHAS KANDAGATLA

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EDUCATION

IcfaiTech, The ICFAI Foundation for Higher Education (IFHE) | **Gold Medal** (All Round Excellence) Hyderabad, TG, India
Bachelor of Technology (Data Science & Artificial Intelligence) | **CGPA**: 9.21/10 ***Aug 2020 – June 2024***
Courses: Blockchain Technology, Internet of Things, Data Visualization**,** Big Data Systems, Neural Networks & Fuzzy Logic, Machine Learning, Data Science, Optimization Techniques, Expert Systems, Numerical Methods, Data Structures, Algorithms

Vignan Junior College Hyderabad, TG, India
12th Standard (Mathematics, Physics, and Chemistry) | **Marks**: 969/1000 ***June 2018 – June 2020***

Gowtham Model School Hyderabad, TG, India
10th Standard | **CGPA**: 8.7/10 ***June 2018***

TECHNICAL SKILLS

Technical Languages : Python, C, C++, R, MATLAB, Java, HTML, CSS, JavaScript, SQL, Kotlin, C#, UNIX (WSL Ubuntu)
Tools & Frameworks : TensorFlow, PyTorch, OpenCV, Hugging Face, NodeJS, ReactJS, NextJS, Django, Git, Redux, AWS
Database/Visualization : MongoDB, MySQL, Neo4j, Oracle, Matplotlib, Plotly, Seaborn, Power BI, Tableau, Looker Studio

PROJECTS

Optimization of NLP Models with Quantization and Accelerated Training | *PyTorch, PEFT, TRL, Hugging Face* (*Link*)
- Refined a text-to-SQL query translator using an advanced large-scale language model with enhanced techniques such as LoRA and quantization, achieving parameter reduction by 40% and accelerated training on a limited GPU resource.
- Used SFTTrainer and BitsAndBytes for SQL schema training, achieving 0.6% higher accuracy and 3x faster inference.
- Leveraged Google Colab's A100 GPU to handle larger datasets and more epochs, boosting computational efficiency, improving model accuracy, and optimizing query generation through extended training and fine-tuning processes.
- Experimented with multiple model parameters to address memory constraints and resolve configuration warnings, resulting in smoother model operation, optimized resource usage, and improved overall performance during training and inference.

SentiALBERT: Advanced Sentiment Analyzer with ALBERT | *ALBERT, NLTK, PyTorch, Hugging Face Transformers* (*Link*)
- Applied ALBERT architecture for sentiment analysis, achieving 87% accuracy across 2 epochs on cross-validated datasets.
- Employed PyTorch for training and integrated NLTK for text preprocessing, enhancing data quality and model performance.
- Utilized the Hugging Face Transformers library to leverage pre-trained ALBERT models, enabling efficient fine-tuning for downstream tasks and achieving state-of-the-art performance with minimal computational overhead.
- Implemented cross-validation techniques to rigorously assess model robustness, ensuring reliable performance and generalization across diverse datasets by minimizing overfitting and providing a thorough evaluation of model effectiveness.

Chainlytics SDK | *NextJS, NodeJS, Fleek, AWS* (*Link*)
- Architected a robust Software Development Kit (SDK) planned for seamless integration with on-chain infrastructure through Fleek. This advanced SDK enabled the enhancement of analytics capabilities by 25%, providing more precise and actionable insights compared to traditional Web2 applications.
- The implementation of this SDK led to a 30% increase in user engagement by delivering real-time insights and interactive features to over 500 users. This improvement in engagement was coupled with a significant refinement in decentralized analytics storage, ensuring that data handling and storage were adjusted for a more efficient and user-friendly experience.

Psoriasis Disease Detection using Transfer Learning Models | *Inception ResNet50, InceptionV3, TensorFlow* (*Link*)
- The InceptionV3 model, configured with 1024 neurons, achieved a training loss of 0.04199 and a validation loss of 0.2341, with corresponding accuracies of 98.50% for training and 95.98% for validation.
- After 20 epochs of training, the model's final test loss was 0.1548, and it achieved an impressive test accuracy of 95.89%, demonstrating strong generalization on unseen data.
- Using the Adagrad optimizer, the model's loss decreased significantly from 1.6358 in the first epoch to 0.2170 by the 20th epoch, with accuracy improving from 42.74% to 96.84%.
- Regularization techniques, including dropout and L2 regularization, were applied effectively to prevent overfitting, contributing to the model's robustness and consistent performance across various datasets during training and testing.

Unpaired Image-to-Image Translation using CycleGANs (horse2zebra) | *TensorFlow, Keras, Python* (*Link*)
- Developed a 70x70 PatchGAN discriminator and a 24-layer generator model for effective unpaired image translation tasks.
- Produced realistic fake images transforming horses into zebras, showcasing robust image translation model performance.
- Implemented InstanceNormalization and custom ResNet blocks to enhance image quality and model performance.
- Preprocessed and normalized image datasets for training, achieving amended model accuracy and image fidelity.
- Designed and executed a training strategy, incorporating model checkpointing and detailed performance evaluation. This approach ensured stable training, allowing the model to develop robust image translation capabilities with reliable results.

EXPERIENCE

Insight India | Python, Numpy, Pandas, DAQ, MCC172HAT | *Embedded Systems Engineer* ***Aug 2024 – Present***
- Currently developing and optimizing Python code for the MCC172 HAT, focusing on efficient data acquisition and processing to monitor vibration in real time. This involves fine-tuning algorithms for accurate measurement and analysis of vibration data.
- Implementing a Tkinter-based UI for dynamic configuration of IEPE (Integrated Electronics Piezo-Electric) sensors such as Dytran 3185A and other hardware settings. This allows real-time changes, improving usability and optimizing performance.

- The interface is intended for user-friendliness and real-time adjustments, providing precise control and monitoring of vibration parameters. This design enhances usability and accuracy, facilitating effective and efficient vibration analysis.
- Integrating the MCC172 HAT with a custom display on a Raspberry Pi to develop a standalone product that mirrors COCO 80X functionality. Considered an intuitive interface and augmented the display for real-time feedback on vibration metrics, ensuring precise control, user-friendly interaction, and efficient data analysis.
- Ensuring seamless operation between the MCC172 HAT, custom display, and Raspberry Pi by addressing and resolving hardware and software compatibility issues, facilitating smooth integration and reliable performance of the entire system.

Indian Institute of Technology, Mandi | SPSS Statistics, Microsoft Excel | *Research Intern* ***May 2022 – Nov 2022***

- Conducted an in-depth study on the impact of COVID-19 on regional mobility and tourism across 20 Indian states and union territories. This involved analyzing how the pandemic influenced travel patterns, regional movement, and tourism activities over time, and identifying significant trends and changes.
- Utilized advanced statistical tools, including Microsoft Excel and SPSS Statistics, to perform comprehensive data analysis. This included applying One-Way ANOVA (Analysis of Variance) to determine whether there were significant differences in mobility and tourism metrics between different regions and periods.
- Conducted Post hoc tests, specifically Tukey's Honestly Significant Difference (HSD) test, to further investigate and identify which specific regions or time points exhibited significant variations. These tests helped to pinpoint precise differences and enhance the understanding of how different factors influenced regional mobility and tourism during the pandemic.
- Enhanced the overall analysis by integrating data visualization techniques and statistical summaries, which provided clear insights into the pandemic's effects on mobility and tourism. This facilitated a better understanding of regional disparities and informed potential policy recommendations. (*Report*)

Gorle Group | UNIX, Samba, xRDP | *Engineering Intern* ***Dec 2020 – Mar 2021***

- Deployed a SAMBA server for secure file sharing with folder authentication, implementing user-specific permissions to restrict access to sensitive directories. This setup significantly boosted data security and confidentiality, ensuring only authorized users could access critical information, and fostering a more secure collaborative work environment.
- Tuned cross-platform connectivity by integrating xRDP (X Remote Desktop Protocol) with the SAMBA server, enabling seamless access to shared files across different operating systems. This integration enriched collaboration, boosted team productivity, and streamlined workflows, leading to faster project completion and strengthened operational efficiency.

PUBLICATIONS

1. Talha, A., Dhanasree, C., Divya, E., **Prabhas, K. S.**, & Abudhagir, U. S. (2024, April). Performance Evaluation of Deep Learning Models for Alzheimer's Disease Detection. In *2024 10th International Conference on Communication and Signal Processing (ICCSP)* (pp. 317-322). IEEE. (*Link*)
2. Paper titled "Effect of Non-Fully Developed Flow and Surface Roughness in an Elbow Pipe under Indian NPP Flow Conditions" published in the ***Indian Society of Theoretical and Applied Mechanics*** (ISTAM'23) conference. (*Link*)
3. "Deep Learning Architectures for Comprehensive Deep Fake Detection in Multimedia: A CNN, Xception, and a Hybrid Inception-RNN Fusion Approach" under review in Open Physics journal. (*Link*)
4. "Employing Transfer Learning Approaches for Multiclass Classification of Brain Tumors in MRI Imagery" under review at Springer Multiscale and Multidisciplinary Modeling, Experiments and Design Journal. (*Link*)
5. "Psoriasis Classification via Custom Transfer Learning" – Under Review in SN Computer Science. (*Link*)

ACHIEVEMENTS

- Received the "Shri N. J. Yasaswy Best Student Gold Medal" for achieving First Rank in "All Round Excellence" at IcfaiTech.
- Earned Merit Scholarship at IFHE for top 5% academic ranking, covering tuition costs with distinction.
- Department course topper for the courses DS324: Neural Networks & Fuzzy Logic & DS303: Blockchain Technology.
- Placed 476th position out of 4898 teams in "Amazon ML Challenge 2023" conducted by Hacker Earth in April 2023.
- Solving various Rubik's Cube (2X2, 3X3, Gear Cube) almost a minute and 4X4, 5X5, Pyraminx, Axis Cube at steady pace.

CERTIFICATIONS

- Introduction to Prompt Engineering for Generative AI (2023) – LinkedIn Learning. (**30th Aug 2024**) (*Link*)
- Stanford University & DeepLearning.AI Machine Learning Specialization on Coursera. (**6th Aug 2023**) (*Link*)
- Deep Learning A-Z™ 2023: Neural Networks, AI & ChatGPT Bonus by Udemy. (**21st Apr 2023**) (*Link*)
- Simulation using ANSYS Fluent on Udemy. (**26th Jan 2023**) (*Link*)
- Blockchain A-Z: Learn How to Build Your First Blockchain – Udemy. (**30th Nov 2022**) (*Link*)
- Machine Learning A-Z: Hands – On Python & R in Data Science by Udemy. (**23th Mar 2022**) (*Link*)
- C Programming for Beginners – Master the C Language – Udemy. (**10th Feb 2022**) (*Link*)

MISCELLANEOUS

- **Ultrasonic Media** & **MavenArts** – Produced YouTube content with over 36,000 views and over 9,600 views, respectively.
- **WittySparks** – ***Video Content Editor & Front-end Developer*** | *HTML, CSS, WordPress, Adobe Cloud* ***Jun 2015 – Present***
  - Utilized Figma to craft design mockups for user interfaces, and implemented the design using HTML and CSS.
  - Oversaw website content publication, and edited product review videos on Adobe Premiere Pro for the YouTube channel.
- **Vasudhaiva Kutumbakam** – ***Volunteer*** | *Event Organization and Management* ***Jun 2021 – Nov 2021***
  - "Dhanyosmi Dharani" – Tree plantation events at railway stations and various colonies in Kurnool, Andhra Pradesh.
  - "Jyothirgamaya" – Focused on empowering individuals with disabilities at different schools in Kurnool, Andhra Pradesh.

INTERESTS

YouTube Content Creation, Networking, Drawing Skills, Solving the Rubik's Cube, Mythological Book Readings, and Travelling.