YEDU KRISHNA P

I Year PhD student in Artificial Intelligence at
Indian Institute of Technology, Hyderabad

ABOUT ME

PhD student with a strong Mathematical background and love for Computer Science, trying to fuse the best from both worlds and make my mark in the field of Data Science and Artificial Intelligence, specifically in Deep Learning research. I can quickly adapt to any situation and learn new skills easily. I constantly push myself to become better in all facets of life and would love to work with teams that deal in a diverse range of problems.

CONTACT

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Chennai, Tamil Nadu

SKILLS

- Deep Learning
- Machine Learning
- Data Structures & Algorithms
- Mathematical Thinking and Analysis
- Fundamentals of
  - Computer Architecture
  - Computer Networks
  - Operating Systems
- Pytorch, C, C++, Python, Java

ACHIEVEMENTS

- ***99.95 percentile (~AIR 19)***
  UGC NET 2025 (Computer Science)
- ***AIR 161 - GATE DA 2025***
- ***Overall Champions*** *- Datamaze 2023, organized by CHRIST University.*
  (1st place in Coding and Pitch Deck team events)

TOOLS

- eBPF, BCC, BPFTrace for profiling and observing OS Kernel Functions
- Jupyter Notebooks and VSCode
- Basic Photoshop, Premiere Pro and Audio Editing Softwares.

LANGUAGES

- English
- Hindi
- Malayalam
- Tamil

GitHub

LinkedIn

ORCID

EXPERIENCE

Projects and Publications:

- 📑 ***S²IL: Structurally Stable Incremental Learning*** 🌐
  Novel Feature Distillation based Class Incremental Learning (CIL) training algorithm that enables Deep Learning models to learn continually by enforcing structural similarity between feature maps across incremental tasks through the incorporation of the Structural Similarity Index Measure.

- 📑 ***CMR: Contextual Memory Recall - A Metric for CIL (Pending Publication)***
  Inspired by the human brain's capability to recollect old knowledge using cues from the past, we designed a novel metric to evaluate how well a CIL model recalls previously learned classes when given relevant cues from previous tasks in the form of Feature Maps.

- 📑 ***ClassifyViStA: WCE Classification with Visual understanding through Segmentation and Attention*** 🌐
  Deep Learning based framework designed for the automated detection and classification of bleeding and non-bleeding frames from **Wireless Capsule Endoscopy** videos to aid in the detection and **treatment of Gastrointestinal bleeding**.
  Won the Consolation Prize for the "Auto WCEBleedgen Challenge" at the International Conference on Computer Vision & Image Processing (CVIP-2023), held at IIT-Jammu.

- 📑 ***EXACFS: A CIL Method to mitigate Catastrophic Forgetting*** 🌐
  Novel CIL algorithm that estimates class-wise feature significance values learned using loss gradients for effective Feature Distillation. The significance values are gradually aged using Exponential Averaging to enhance stability.
  Published in the proceedings and Presented at the Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP-2024), held at IIIT-Bengaluru.

- 📑 ***Masked Face Completion: Residual Attention Conditioned U-Net*** 🌐
  Developed a CNN based Computer Vision model that inpaints masked faces (Mask Removal & Face Prediction), based on U-Net Architecture with skip connections and a novel introduction of conditioning embedding of the facial emotion class that helps in realistic reconstruction of the facial images.
  Presented at the Student Research Symposium of the National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG-2023), held at IIT-Jodhpur.

- ⚙️ ***Understanding OS Process Scheduling and Insights with BCC and BPFTrace*** 🌐
  Mini project on how processes are scheduled in Linux, the implementation of scheduling algorithms and insights into the behaviour of Ubuntu's short term scheduler using bpftrace, eBPF and BCC high-level tracing tools for observability.

- ⚙️ ***Automated Data Transfer*** - Developed a simple python based application for Sri Sathya Sai Institute of Higher Medical Sciences that automates daily backup of recent files from a local server onto cloud storage.

EDUCATION

Indian Institute of Technology - Hyderabad | 2025 - Present
Doctor of Philosophy (PhD) - Department of Artificial Intelligence

Sri Sathya Sai Institute of Higher Learning | 2023 - 2025
Master of Science in Mathematics w/ Computer Science specialization (O Grade - 8.9 CGPA)

Sri Sathya Sai Institute of Higher Learning | 2020 - 2023
Bachelor of Science (Honours) in Mathematics (A+ Grade - 7.8 CGPA)

Sri Sathya Sai Higher Secondary School | 2018-2020
CBSE XII - Mathematics, Physics, Chemistry, Computer Science (95.2%)

SOCIETIES & ACTIVITIES

Saxophonist for the Institute Brass Band

Section Leader | Prashanti Nilayam | 2023 – 2025

- Led the Saxophones section in the Institute Brass Band of Sri Sathya Sai Institute of Higher Learning and participated in multiple live performances including Symphonies, Concert Programmes and Marching Performances

Extra Curricular Activities

- Led, participated and won in several Inter House competitions like Debate, Orchestra, General Knowledge, Drama, Basketball, Football, Ball Badminton and also in individual events like Elocution, Instrumental competition, Mono acting, Poetry writing competitions.