

Mitra Datta Ganapaneni

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🏠 Amherst, MA

EDUCATION

- **University of Massachusetts, Amherst** Amherst, MA
• *Master of Science in Computer Science; CGPA: 3.95* Aug. 2023 – Current
• **Relevant Coursework:** Machine Learning, Neural Networks, Information Retrieval, Computer Network and Security, Advanced NLP
- **SRM University AP** Andhra Pradesh, India
• *Bachelor of Technology in Computer Science and Engineering ; GPA: 9.39/10.00* Aug. 2019 – June. 2023

TECHNICAL SKILLS

- **Languages:** Python, C/C++, Java, JavaScript, HTML, CSS, SQL, MATLAB
- **Technologies and Interests:** Machine Learning, Deep Learning, Artificial Intelligence, Competitive Coding
- **Frameworks/Libraries:** TensorFlow, Keras, NumPy, Flask, Django, Bootstrap, Opencv, Scikitlearn
- **Cloud and Tools:** AWS [EC2, EBS, S3, Lambda], Docker, Git, MongoDB, MySQL, Unix/Linux, Agile

EXPERIENCE

- **Carnegie Mellon University** Remote, India
• *Research Intern* April 2022 - August 2022
 - Analyzed ECG waveforms of and employed a neural network pipeline with **Keras Sequential API** to forecast patients' cardiovascular conditions achieving a **90% accuracy** rate in prediction..
 - Developed a centralized **web-based platform** with **React.Js** and **Flask** to deploy proposed models that automated to assist in clinical diagnosis and prognosis of nearly **2000 patients** and reduced manual analysis time by **24%**.
 - **Carried out survival analysis** of post-thoracic transplantation patients who used the Intra-aortic balloon pump and **Impella device** using required statistical tests.
- **360 Research Foundation** Remote, India
• *Web Developer Intern* May 2021 - July 2021
 - Developed a user-centric website for the organization tailored to the client's requirements. Constructed an intuitive **e-commerce portal**, designed to elevate user engagement and provide an **immersive shopping experience**.
 - The integration of new features **augmented revenue by approximately 10%**, and contributed to an expansion of market presence.

PROJECTS

- **Effective Unlearning in Large Language Models (LLMs):** Feb.2024 - April.2024
 - **Implemented unlearning techniques** to address issues such as biases, data privacy. Utilized methods like Gradient Ascent, DPO ensuring the removal of undesirable information without compromising overall model performance.
 - **Performed controlled experiments on TOFU Dataset**, across the models Gemma-2b and Phi. Successfully maintained **86%** of performance while retaining the real world knowledge of models.
- **Detecting Long NonCoding RNA Responsible for Cancer Development:** Jan.2022 - June.2022
 - Identified **234 vital genes (lncRNA)** crucial for cancer progression across 5 cancer types (Bladder, Cervical, etc) by modulating a multiclass classification using different ML algorithms integrated with 3 feature selection techniques.
 - Further, performed correlation analysis on identified genes and curated a list of **top 10 related genes** for each cancer type. The proceedings are published in IEEE Xplore.
- **Movie Recommendation System using Query Analysis:** Sep.2021 - Nov.2021
 - Contributed to design a movie recommendation system by integrating **collaborative filtering** with user search patterns to enhance recommendation relevance based on **personalized user interests**.
 - Constructed the frontend with **HTML and CSS**, and developed the backend with **Flask**, utilizing a **MySQL** database for storage and retrieval of user and movie data.
- **Online Image Processing Tool:** June 2021 - August 2021
 - Developed an interactive **online image processing tool** showcasing a suite of image manipulation techniques to enhance understanding of digital image processing applications in everyday and academic context.
 - Enabled processing of live camera feeds, uploaded file, and remote images via URL input; integrated functionality for image transformations and filters for **smoothing, sharpening, and edge detection**.

ACHIEVEMENTS

- Won a gold Medal for Presenting a research paper on “Detecting LongNonCoding RNA Responsible for Cancer Development” at the SRM University AP Research Day.

VOLUNTEER EXPERIENCE AND COMMUNITY SERVICE

- Volunteered as peer evaluator for first year undergrad students for “Introduction to Programming Using C” course and have provided suggestions on how to further improve their understanding.
- Worked as a guide at Sukha Vana, an exotic bird park run by the non-profit Avadhoota Datta Peetham in Mysore, India, for endangered bird species.