

BADRI NARAYANAN MURALI KRISHNAN

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OBJECTIVE

Detail-oriented and diligent professional with **2+ years** of experience in applied and theoretical ML. Seeking a **Machine Learning FTE** role to apply my meticulous approach to develop impactful real-world solutions.

EDUCATION

University of Wisconsin-Madison

Sep 2023 – Present

Master of Science - Computer Sciences; CGPA: 3.65 / 4.0

Madison, WI

Relevant Courses: Artificial Neural Networks, Artificial Intelligence, Big Data, Data Clean & Integration for DS.

SSN College of Engineering (Affiliated to Anna University)

Aug 2018 – May 2022

B.Tech in Information Technology; CGPA: 8.95 / 10.0

Chennai, India

SKILLS

Programming Languages

Python, C, C++

Frameworks and Tools

PyTorch, TensorFlow, Keras, LangChain, Git, Docker, SQL, AWS

Libraries

NumPy, pandas, scikit-learn, streamlit, NLTK, spaCy, OpenCV

WORK EXPERIENCE

Autonomous System Research Intern

Jun 2024 – Present

Nokia Bell Labs

Murray Hill, NJ

→ Leveraging **LangChain** and **Prompt Engineering** techniques to design a **multi-agent LLM** system to facilitate automation.

→ Visualized and deployed the agents using **streamlit** to interact and demonstrate their capabilities.

Master's Research

Sep 2023 – May 2024 (8 Mos)

University of Wisconsin - Madison

Madison, WI

→ Ran comprehensive benchmark tests on various LLMs with different configurations on platforms with varying levels of hardware capability.

→ Formulated an RNN-based approach for trajectory prediction using Wifi signal data and historical user data.

Associate Engineer - AI/ML

Jul 2022 – Jul 2023 (1 Yr)

Qualcomm

Hyderabad, India

→ Introduced evaluation frameworks and metrics for ML models to enhance efficiency and accuracy by **10.26%**.

→ Ran inference and benchmark tests using SNPE (SnapDragon Neural Processing Engine), based on OEM requests.

Machine Learning Intern

Mar 2021 – Jun 2022 (1 Yr 4 Mos)

Mad Street Den (Vue.ai)

Chennai, India

→ Developed a document processing tool using OCR, image processing, and NLP techniques to transform unstructured data into a structured format for workflow automation.

→ Our efforts reduced document processing time by **37%** and achieved an accuracy of **85%**.

Part-Time Undergraduate Research Assistant

Feb 2020 – Jun 2022 (2 Yrs 5 Mos)

Bright Academy (Previously Solarillion Foundation)

Chennai, India

→ Lead the NLP group that worked to translate the video input of a German sign language translator depicting the weather, into cohesive and accurate German sentences.

→ Our work uses **30.88%** fewer model parameters than the SOTA and was able to retain **98.19%** and **86.65%** performance when using **ROUGE-L** and **BLEU-4** as a metric.

→ Collaborated on an NLP project to classify unfair Terms of Service clauses using a two-stage knowledge distillation approach with BERT.

Student Researcher

Sri Sivasubramaniya Nadar College of Engineering

Dec 2020 – Apr 2022 (1 Yr 5 Mos)

Chennai, India

→ Posited a novel architecture for Fake News Detection based on Transformer architecture, which considers the title and content of a news article to determine its integrity with an accuracy of **74.0%**.

→ Proposed a robust and cost-effective automatic speech recognition model for the Tamil language leveraging Baidu's Deep Speech architecture. Our work was compared against Google's speech-to-text API, outperforming it by **20%**.

ACADEMIC PROJECTS

Relationship Extraction using Language Models [Github](#)

Feb 2024 - May 2024

→ A machine learning system for extracting complex relationships between entities from unstructured text data, leveraging language models.

Optimizing Natural Language Understanding: Fine-tuning Mistral 7B [Github](#)

Feb 2024

→ This project focuses on fine-tuning Mistral 7B LLM on the Samantha question-answering dataset. It aims to adapt the Mistral model to conversational and contextual question answering.

Terms of Service Classification [Github](#)

May 2022 - Jun 2022

→ Identify unfair Terms of Service clauses using a two-stage knowledge distillation DL algorithm on devices with minimal resources using state-of-the-art architectures like BERT.

PUBLICATIONS

In the Palm of Your Hand: Benchmarking Large Language Models for Mobile Deployment

Submitted for review in Empirical Methods in Natural Language Processing (EMNLP), 2024

Fake News Detection using a Deep Learning Transformer Based Encoder-Decoder architecture

[Publication](#) [Github](#)

IOS Press - Journal of Intelligent & Fuzzy Systems, 2023 (Science Citation Index Expanded Journal.)

End-to-End Speech Recognition of Tamil Language [Publication](#) [Github](#)

Intelligent Automation and Soft Computing, 2021 (Science Citation Index Expanded Journal.)

Sign Language Translation using Multi Context Transformer [Publication](#) [Github](#)

20th Mexican International Conference on Artificial Intelligence (MICAI), Mexico City, 2021

Paper published in Springer Lecture Notes in Artificial Intelligence (LNAI) proceedings.

Won the 3rd best paper award.

VOLUNTEERING AND RESPONSIBILITIES

→ Reviewed manuscripts for the Science Citation Indexed Journal: IOS Press - Journal of Intelligent & Fuzzy Systems.

→ Conducted classes in NLP and CV, evaluated ML and DL assignments as the ML head of PROCODE - the official coding club of the Department of Information Technology.

AWARDS AND HONOURS

→ Awarded the **Merit Scholarship** for my academic performance in the 3rd year of my undergraduate study.

→ Won the **3rd best paper** award for “**Sign Language Translation using Multi Context Transformer**” at the 20th Mexican International Conference on Artificial Intelligence (MICAI), 2021.