

BADRI NARAYANAN MURALI KRISHNAN

mbadrinarayanan.com | github.com/MBadriNarayanan | linkedin.com/in/mbadrinarayanan | bmuralikrish@wisc.edu | Madison, United States of America

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 – May 2025 (Expected)

Master of Science - Computer Sciences; CGPA: 3.57 / 4.0

Madison, WI

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

Sri Sivasubramaniya Nadar College of Engineering (Autonomous)

Aug 2018 – May 2022

Affiliated to Anna University

Chennai, India

B.Tech in Information Technology

CGPA: 8.95 / 10.00

Graduated First Class with Distinction.

Courses: Machine Learning, Artificial Intelligence, Probability, Statistics, Data Structures and Algorithms.

SKILLS

Programming Languages: Python, C, C++

Frameworks and Tools: PyTorch, TensorFlow, Git, Docker, AWS

Libraries: NumPy, pandas, scikit-learn, NLTK, spaCy, OpenCV

WORK EXPERIENCE

Associate Engineer - AI/ML

Jul 2022 – Jul 2023 (1 Yr)

Qualcomm

Hyderabad, India

- Contributed towards the development and maintenance of SNPE (SnapDragon Neural Processing Engine).
- Improved the testing pipelines for running deep neural networks on SnapDragon SoCs.
- Introduced evaluation frameworks and metrics for ML models to enhance efficiency and accuracy.

Skills: Edge Machine Learning, Python, Docker

Manager: Mrs. Archana Patil, Engineer - Staff / Manager

Machine Learning Intern

Mar 2021 – Jun 2022 (1 Yr 4 Mos)

Mad Street Den (Vue.ai)

Chennai, India

- Developed a tool for document processing as part of the NLP core group using an OCR engine, image processing, and NLP techniques to process unstructured data and convert them to a structured format.
- Built Computer Vision models to serve educational recommendations.

Skills: NLP, CV, Python, PyTorch, Tensorflow, NumPy, pandas, scikit-learn, NLTK, spaCy, OpenCV, AWS

Manager: Mr. Anand Chandrasekharan, Founder and CTO

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 aims to translate the video input of a German sign language translator depicting the weather, into cohesive and accurate German sentences.
- We achieved **98.19%** score retention in the ROUGE-L score and **86.65%** in the BLEU-4 score, while simultaneously achieving a **30.88%** reduction in model parameters when compared to the state-of-the-art model.
- Collaborated on Terms of Service Classification, an NLP problem statement that uses a two-stage knowledge distillation DL approach on low-resource devices with cutting-edge architectures like BERT to find unfair Terms of Service terms.

Skills: Research, NLP, CV, PyTorch, Tensorflow, NumPy, pandas, scikit-learn, NLTK, spaCy, OpenCV

Advisor: Mr. Vineeth Vijayaraghavan, Director - Research and Outreach

Student Researcher

Dec 2020 – Apr 2022 (1 Yr 5 Mos)

Sri Sivasubramaniya Nadar College of Engineering

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.
- Our work performed with an accuracy of **74.0%** on a subset of the NELA-GT 2020 dataset. To our knowledge, FakeNews Transformer is the first published work considering both title and content for evaluating a news article.

→ 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%**.

Skills: Research, NLP, Speech Signal Processing, PyTorch, Tensorflow, NumPy, pandas, scikit-learn, NLTK, spaCy

Advisor: Dr. Shahina A - Professor & Dr. Gayathri K S - Assistant Professor, Department of IT

ACADEMIC PROJECTS

TinyLLM: Enabling Efficient LLM Deployment on Resource-Constrained Devices Feb 2024 – Present

Researching model compression techniques like quantization to optimize LLMs for real-time inference on low-power devices.

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

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

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

M Badri Narayanan, Arun Kumar Ramesh, Gayathri K S, Shahina A

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

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

Mohamed Hashim Changrampadi, A Shahina, **M Badri Narayanan**, A Nayeemulla Khan

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

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

M Badri Narayanan, K Mahesh Bharadwaj, G R Nithin, Dhiganth Rao Padamnoor, Vineeth Vijayaraghavan

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.