BADRI NARAYANAN MURALI KRISHNAN

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EDUCATION

University of Wisconsin-Madison **Sep 2023 − Dec 2024 (Expected)**
Master of Science - Computer Sciences; **CGPA: 3.65 / 4.0** Madison, WI
<u>Relevant Courses</u>: Intro to AI, Advanced NLP, Foundational Models, 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, Spark, Git, Docker, SQL, AWS
Libraries	NumPy, pandas, scikit-learn, streamlit, NLTK, spaCy, OpenCV

WORK EXPERIENCE

Autonomous System Research Intern **Jun 2024 − Aug 2024 (2 Mos)**
Nokia Bell Labs *Murray Hill, NJ*
→ Leveraged **LangChain** and **Prompt Engineering** techniques to substantiate **LLM** planning & reasoning power.
→ Visualized and deployed the **multi-agent system** 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 various hardware platforms.
→ 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 OCR/NLP-based document processing tool to convert unstructured data 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*
→ Led NLP team translating German sign language weather videos into accurate German sentences.
→ **30.88%** fewer model parameters than the SOTA, **98.19%** and **86.65%** retention for **ROUGE-L** and **BLEU-4**.

SELECTED PROJECTS

Relationship Extraction using Language Models [Github] **Feb 2024 - May 2024**
→ Extracting complex relationships between entities from unstructured text data, leveraging language models.
Optimizing Natural Language Understanding: Fine-tuning Mistral 7B [Github] **Feb 2024**
→ Fine-tuning Mistral 7B LLM on the Samantha dataset 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.

SELECTED PUBLICATIONS

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.)
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.