







M BADRI NARAYANAN

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EDUCATION

**Sri Sivasubramaniya Nadar College of Engineering (Autonomous),
Affiliated to Anna University, Chennai, India**

August 2018 – May 2022

B.Tech in Information Technology

CGPA: 8.955 / 10.00

Graduated First Class with Distinction

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

Vidya Mandir Senior Secondary School, Chennai, India

June 2017 – June 2018

Grade 12, Computer Science Stream

Grade: 94.4%

SKILLS

Programming Languages: Python, C, C++

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

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



PUBLICATIONS

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

 [Code](#)

Submitted for review in Journal of Intelligent & Fuzzy Systems, 2023

Journal indexed in Science Citation Index Expanded.

End-to-End Speech Recognition of Tamil Language  [Paper](#)  [Code](#)

Intelligent Automation and Soft Computing, 2021

Journal indexed in Science Citation Index Expanded.

Sign Language Translation using Multi Context Transformer  [Paper](#)  [Code](#)

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.

EXPERIENCE

Associate Engineer - AI/ML

July 2022 – Present

Qualcomm

Hyderabad, India

→ Contributing towards the development and maintenance of SNPE (SnapDragon Neural Processing Engine).

→ Working to improve the testing pipelines for running deep neural networks on SnapDragon SoCs.

→ Introduced evaluation frameworks and metrics for ML models to enhance their efficiency and accuracy.

Skills: Edge Machine Learning, Python, Docker

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

Part-Time Undergraduate Research and Teaching Assistant

February 2020 – December 2022

Bright Academy (Previously Solarillion Foundation)

Chennai, India

→ 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.

→ Lead the NLP group that presented the “Sign Language Translation using Multi Context Transformer” paper at the 20th Mexican International Conference on Artificial Intelligence (MICAI), Mexico City, 2021.

→ To translate the input sign video, Multi Context Transformer architecture employs transformers and runs on batched video inputs. Our model achieved comparable results with the state-of-the-art model while reducing the parameters significantly to enable the deployment of the model in more accessible devices.

→ Guided 5+ students in research, evaluated assignments and projects in Python and Machine Learning.

→ Oversaw the website development and managed the server for our research group.

→ Wrote bots for posting office hours and creating polls.

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

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

Student Researcher

December 2020 – April 2022

Sri Sivasubramaniya Nadar College of Engineering

Chennai, India

→ Introduced a novel architecture for Fake News Detection based on Transformers, which considers the title and content of a news article to determine its integrity. Our work is currently under review in a Science Citation Index Expanded journal.

→ Developed a robust and cost-effective automatic speech recognition model for Tamil language leveraging Baidu's Deep Speech architecture. Our work was published in the Science Citation Index Expanded journal: *Intelligent Automation & Soft Computing*, 2022.

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

Machine Learning Intern

March 2021 – June 2022

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

Advisor: Mr. Anand Chandrasekharan, Founder and CTO

Summer Intern

June 2020 – August 2020

Prodiان Info Tech Pvt Ltd

Chennai, India

→ Applied unsupervised ML Algorithms to explore different patterns that affect a cricket match.

Skills: Machine Learning, Python, NumPy, pandas, scikit-learn

Advisor: Mr. Vijay Karthik, Founder and CEO

SELECTED PROJECTS

Terms of Service Classification [Code](#)

June 2022 - December 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.

Freelance Projects

October 2020 – February 2021

Undertook projects from Freelancer.com in Natural Language Processing and Computer Vision. Completed a project with a US-based company "EasyComtec" to predict the ICD diagnosis code given a doctor report using Transformer architecture.

Clickbait Classification [Code](#)

August 2020

Classifying clickbaits: articles with potentially misleading titles, using a state-of-the-art NLP architecture.

Object Detection Using YOLO v3 [Code](#)

August 2020

Detecting everyday objects using the YOLO v3 network with a custom dataset.

VOLUNTEERING AND RESPONSIBILITIES

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

→ Served as the class representative for the entire duration of my undergraduate study.

→ Volunteered with Chennai Volunteers to teach spoken English classes for socio-economically weaker students.

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 (MICA), 2021.

→ Part of the collegiate cricket team which won the Manipal Academy for Higher Education (MAHE) cricket tournament.