





M BADRI NARAYANAN

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EDUCATION

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

Aug 2018 – May 2022

B.Tech. 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

Jun 2017 – Jun 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, 2022

Journal indexed in Science Citation Index Expanded.

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

Intelligent Automation and Soft Computing, 2022

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).

Won the 3rd best paper award.

EXPERIENCE

Qualcomm, Associate Engineer - AI/ML, Hyderabad, India

Jul 2022 – Present

→ Developing and maintaining the existing testing framework for SNPE (SnapDragon Neural Processing Engine).
→ Working to automate the development and testing pipelines for running state-of-the-art deep neural networks efficiently and accurately on Snapdragon chipsets.

Skills: Edge Machine Learning, Python, Object Oriented Programming, Docker

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

Solarillion Foundation, UG RA and TA (Part Time), Chennai, India  [Website](#)

Feb 2020 – Present

→ Collaborating 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

SSN College of Engineering, Student Researcher, Chennai, India

Dec 2020 – Apr 2022

→ 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

Mad Street Den, Machine Learning Intern, Chennai, India

Mar 2021 – Jun 2022

→ Developed a tool for document processing as part of the NLP core group using an OCR engine, image processing, and NLP techniques to extract 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

Prodiان Info Tech Pvt Ltd, Summer Intern, Chennai, India

Jun 2020 – Aug 2020

→ 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](#)

In Progress

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 [Freelancer Profile](#)

Oct 2020 – Feb 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](#)

Aug 2020

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

Object Detection Using YOLO v3 [Code](#)

Aug 2020

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

SELECTED MOOC COURSES

Natural Language Processing Specialization (Set of 4 Courses) [Course Certificate](#) **Oct 2020**

Coursera and DeepLearning.AI

Master Computer Vision™ OpenCV4 in Python with Deep Learning [Course Certificate](#) **Oct 2020**

Udemy

TensorFlow Developer Specialization (Set of 4 Courses) [Course Certificate](#) **Jun 2020**

Coursera and DeepLearning.AI

Deep Learning Specialization (Set of 5 Courses) [Course Certificate](#) **Jun 2020**

Coursera and DeepLearning.AI

Machine Learning [Course Certificate](#) **May 2020**

Coursera and Stanford University

VOLUNTEERING AND RESPONSIBILITIES

→ Conducted classes in NLP and CV, evaluated ML, DL assignments and projects 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.