M BADRI NARAYANAN

🏶 mbadrinarayanan.github.io 🗘 MBadriNarayanan 🗓 mbadrinarayanan

EDUCATION

Sri Sivasubramaniya Nadar (SSN) College of Engineering (Autonomous),

Aug 2018 - May 2022

CGPA: 8.955 / 10.00

Affiliated to Anna University, Chennai, India

B.Tech. Information Technology

Graduated First Class with Distinction

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

Vidya Mandir Senior Secondary School, Chennai, India

Grade 12, Computer Science Stream

Jun 2017 – Jun 2018

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 at Journal of Intelligent & Fuzzy Systems, 2022

Journal indexed in Science Citation Index Expanded.

End-to-End Speech Recognition of Tamil Language Paper C 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).

EXPERIENCE

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

Iul 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, Object Oriented Programming, Python, 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
- → Lead the team which worked on Sign Language Translation which won the 3rd best paper award at the 20th Mexican International Conference on Artificial Intelligence (MICAI), Mexico City, 2021.
- → 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 at a Science Citation Index Expanded journal.
- → Developed a robust and cost-effective automatic speech recognition model for the Tamil language. Our work was published in a Science Citation Index Expanded journal.

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, PyTorch, Tensorflow, NumPy, pandas, scikit-learn, NLTK, spaCy, OpenCV, AWS

Advisor: Mr. Anand Chandrasekharan, Founder and CTO

Prodian 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, NumPy, pandas, scikit-learn

Advisor: Mr. Vijay Karthik, Founder and CEO

SELECTED PROJECTS

In Progress

Two-stage knowledge distillation DL algorithm on minimal resource devices with cutting-edge architectures like BERT to find unfair Terms of Service clauses.

Freelance Projects # Freelancer Pofile

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. I also developed a model to classify Arabic tweets into ham or spam.

Clickbait Classification (7) 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 and DeepLearning.AI

Deep Learning Specialization (Set of 5 Courses) Course Certificate Jun 2020 Coursera and DeepLearning.AI

Python for Computer Vision with OpenCV and Deep Learning Course Certificate Jun 2020 *Udemy*

Machine Learning Course Certificate May 2020
Coursera and Stanford University

VOLUNTEERING AND RESPONSIBILITIES

- \rightarrow 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.
- \rightarrow Won the **3rd best paper** award for "**Sign Language Translation using Multi Context Transformer**" at the 20^{th} Mexican International Conference on Artificial Intelligence (MICAI), 2021.
- → Part of the collegiate cricket team which won the Manipal Academy for Higher Education (MAHE) cricket tournament.