Thanmay Jayakumar

GitHub | LinkedIn | E-mail

EDUCATION

VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY Nagpur, India | 2019-Present
(B.Tech) Electronics & Communication Engineering

GLOBAL INDIAN INTERNATIONAL SCHOOL
Singapore | 2019

COURSEWORK

- NVIDIA's Building Transformer-Based Natural Language Processing Applications [Course]
- Stanford CS224n: NLP with DL [Course]
- Neural Networks and Deep Learning [Course]
- Convolutional Neural Networks [Course]
- Introduction to Linguistics [Course]
- Introduction to Entrepreneurship
- Information Theory
- Image Analysis and Computer Vision
- Computer Networks

SKILLS

PROGRAMMING LANGUAGES
• Python • C • C++ • MATLAB • Perl (basic)

LIBRARIES
• PyTorch • Tensorflow • NumPy • SciPy • Pandas

SOFTWARE/TOOLS
• MS Office • Adobe Photoshop • LaTeX

OPERATING SYSTEMS
• Linux • Windows

LANGUAGES

Fluent	English, Tamil, Hindi, Telugu
Intermediate	German, Malayalam, Kannada
Elementary	Mandarin, Malay, Persian, Arabic

EXTRACURRICULARS

- **Workshop Coordinator:** Organized and volunteered various workshops conducted under IEEE VNIT Student Chapter Nagpur.
- **IvLabs Member:** Core Member of the AI and Robotics Lab of VNIT, Nagpur.
- **Graphic Designer:** Member of the Magazine & Literary Club, VNIT Nagpur.
- **Piano & Music Theory:** Grade 5 - Associated Board of the Royal Schools of Music (ABRSM).

HONORS AND AWARDS

- Awarded the D&I full sponsorship to attend EMNLP 2022 at Abu Dhabi, UAE.
- Selected into IIIT-Hyderabad's Advanced Summer School on Natural Language Processing 2022 at Hyderabad, India. [Course] [Certificate]

EXPERIENCE

RESEARCH INTERN [Project Report] [Presentation]
IIT Kanpur, India | May - Aug 2022
- Aimed at solving the task of Spoken Term Detection (STD) to retrieve queried speech files in an audio database.
- Implemented three different approaches to STD for query localization, classification and location suggestion in a database.
- Analyzed an optimal combination of the above, in order to work towards building a language-agnostic system.

SUMMER RESEARCH INTERN [GitHub]
IvLabs, VNIT, India | Jul - Aug 2020
- Employed various Signal Processing techniques such as MFCCs and LPCs and modeled a Speaker Recognition system in NumPy.
- Achieved an accuracy of 100% for both MFCC and LPC using a set of 8 speakers from the CSTR VCTK Corpus.

PROJECTS

STATISTICAL MACHINE TRANSLATION [Presentation]
LTRC, IIIT Hyderabad, India | July 2022
- Aimed at investigating the effects of different evaluation metrics during the tuning phrase of an SMT model.
- Compared the results of models tuned on BLEU, chrF, TER, WER and PER on a subset of the IndicWAT corpus.

SENTIMENT ANALYSIS [GitHub]
IvLabs, VNIT, India | Dec 2021
- Aimed at the automatic determination of polarity in text.
- Compared the results of different architectures such as LSTM, FastText and BERT on the IMDb dataset.

AUTOMATIC SPEECH RECOGNITION [GitHub]
IvLabs, VNIT, India | Sep 2021
- Aimed at developing an end-to-end ASR system.
- Deployed Deep Self-Attention Networks [arXiv] in Keras using the LJ Speech Dataset.

NEURAL MACHINE TRANSLATION [GitHub]
IvLabs, VNIT, India | Jun 2021
- Studied papers presenting novel architectures for NMT.
- Implemented Encoder-Decoder architectures in PyTorch using the Multi30k Dataset for German-English.

NAME GENERATION [GitHub]
IvLabs, VNIT, India | May 2021
- Generated dinosaur names by developing a character-level Language Model using PyTorch.
- Compared the results of Vanilla RNN, LSTM and GRU.

ATM SYSTEM [Project Report]
VNIT, India | April 2021
- Simulated an ATM on an ESP32 Arduino with a Telegram Bot.
- Integrated touch sensors for PIN insertion and EEPROM to store account balance and history, and tested different input setups.