

Karthik Puranik

<https://www.linkedin.com/in/karthikpuranik/>
karthikp18c@iiit.ac.in | +91 8762263279

EDUCATION

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY TIRUCHIRAPPALLI

B.Tech (CSE) | 2018-22 | CGPA: 8.3

DCFL PU COLLEGE

Bengaluru, Karnataka
PCMCs | Passed 2018 | 91.33%

SDM CENTRAL SCHOOL

Dharwad, Karnataka
Schooling (CBSE) | Passed 2016 |
CGPA: 10

LINKS

- GitHub
- Kaggle
- Google Scholar
- Hackerrank
- Travel blog
- Personal blog

CERTIFICATIONS

- **Python For Everybody Specialization**, University of Michigan
- **Neural Networks and Deep Learning**, deeplearning.ai
- **Applied Data Science with Python Specialization**, University of Michigan
- **Tensorflow in Practice Specialization**, deeplearning.ai

SKILLS

TECHNICAL SKILLS

COMPETENCIES

- Machine Learning • Deep learning
- Natural Language Processing • Machine Translation • Data Analysis

FRAMEWORKS

- Tensorflow • Keras • PyTorch • Huggingface Transformers • Scikit-Learn
- NumPy • Pandas • Matplotlib • Seaborn

PLATFORMS

- Anaconda distributions • Google Colab
- Dev C++

PROGRAMMING LANGUAGES

- Python • C • LaTeX

DATABASE TECHNOLOGY

- MySQL

WORK EXPERIENCE

CRIMSON INTERACTIVE (ENAGO)

ML Engineer Intern | May 2021 – June 2021

- Worked on **Machine Translation for Indian languages** to produce exceptional BLEU scores.
- Trained **fairseq** models on the Samanantar dataset after removing noise, and also worked with the **SimAlign** tool to produce word alignments for translation.
- Worked on various multilingual pre-trained models for the same task and analysed the scores.

INDIAN INSTITUTE OF TECHNOLOGY BHU(VARNASI)

Research Intern | Dec 2020 – current

- Research and development of **Topological Relations between Spatial Objects** under Dr. Sukhada.
- Tried to improve the translations produced by **Language Communicator**, a translation tool by IIT BHU using masked language models (MLM) in transformers like **BERT** and **t5**.
- Worked on a research paper in **Spatial topological relations in Hindi** by analysing responses from various native and non-native speakers.

INDIAN INSTITUTE OF MANAGEMENT INDORE

Research Content Writer Intern | Jan – Feb 2021 | May - June 2021

- Research and writing case studies on an upcoming company in the telemedicine industry under Dr. Saurabh Kumar.
- Analysing and formulating ideas for an IoT based company to recover from the losses incurred due to COVID-19 and recording the same.

THE SPARKS FOUNDATION

Data Science and Business Analytics Intern | Dec 2020 – Jan 2021

- Worked on various **supervised and unsupervised Machine Learning algorithms** to solve real-time problems and analysing the results.

GOALS101

Technical Writer | June 2020 – Aug 2020

- Worked as a technical writer in this AI-based Transaction Behavioral Intelligence (TBI) company that provides solutions to the banking industry.
- Introduced to **Big Data** and the real-time use of **ML and AI in the industry**.

PUBLICATIONS

- **There is always Hope in Transformers** (Paper)
- **Attentive fine-tuning of Transformers for Translation of low-resourced languages** (Paper)
- **Offensive Language Identification in Low-resourced Code-mixed Dravidian languages using Pseudo-labeling** (Preprint)
- **Evaluating Pretrained Transformer-based Models for COVID-19 Fake News Detection** (Paper)
- **Domain Identification of Scientific Articles using Transfer Learning and Ensembles** (Paper)
- **Transfer Learning for Offensive Language Detection in Dravidian Languages** (Paper)

LANGUAGES

Kannada • Mother tongue
English • Fully Fluent
Hindi • Intermediate

OTHER ACTIVITIES

- Worked as **Training and Placement representative** of IIIT Trichy.
- Helped create content for **Tare Zameen Foundation (an NGO)**.
- Volunteered to create content for **SafeSlot**, an application to control the spread of COVID-19 at shops (Link).
- Organized events at **Aahladh**, the cultural fest of IIITT.
- Coordinated **Media Club** at IIITT.
- **Class representative** for 1st and 2nd semesters.
- Represented **IIITT Dance Troupe** at Abhisarga '19, IIIT Sricity.

PROJECTS

- **Academic Project- Manufacturing industry database management Web application** for a manufacturing company using **HTML, CSS, PHP and MySQL** to carry out elementary operations (Link).
- **English to low-resourced languages machine translation system**
Worked on several neural machine translation models including T5, M2M100, Opus-MT and IndicTrans to get state-of-the-art BLEU scores for English to Irish and Marathi languages. Fine-tuned it on several parallel corpora, including Bible-uedin from WAT 2021 to fine-tune the model further. (Link).
- **Comparing models for Twitter sentiment analysis**
A classification study to compare various **ML models, BiLSTM and transformers like DistilBERT and ULMFiT** (Link).
- **Kannada MNIST**
A **digit recognizer** built using **Convolutional Neural Networks (CNN)** in Keras and **Tensorflow** to give an accuracy of 98.54% for the low resourced Dravidian language, Kannada (Link).

ACHIEVEMENTS

- **Top 1%** in KCET 2018 and **top 2%** in JEE Mains 2018.
- **Rated 5*** in Python and Problem-Solving in Hackerrank.
- 1st rank at LoResMT task at MT Summit 2021 and also presented the research paper.
- **Two time** Karnataka Talent Search Examination (KTSE) top 10.
- **Best Allrounder** 2015-16 of SDM Central school awardee.
- Top performance in **Kaggle** competitions and **Fliplr 7.0 hackathon**.