ADEEP HANDE

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Education

IIIT TIRUCHIRAPPALLI	**Aug. 2018 – May 2022 (Expected)**

Bachelor of Technology in Computer Science, CGPA = 8.1/10.0 *Tiruchirappalli, TN*

Featured Coursework: Deep Learning, Natural Language Processing, Cloud Computing, Software Engineering.

EXPERIENCE

Tata Communications (Corporate Strategy – Innovations)	**November 2021 – Present**

Data Scientist Intern *Bengaluru, India*

- Creating an AI-powered real-time Fraud Prevention as a Service (FPaaS) engine based on hundreds of millions of call logs obtained from pre-existing rule-based algorithms.

Insight SFI Research Centre for Data Analytics	**July 2020 – Present**

Research Intern *Galway, Ireland*

- Developed a Multi-task Learning framework for Sentiment Analysis and Offensive Language Identification in Dravidian Languages.
- Constructed Code-Mixed Datasets scraped from YouTube for Kannada-English language.

Raaga Products Pvt Ltd	**May 2021 – July 2021**

Research Intern *Bengaluru, KA*

- Worked on the project *Anomaly Detection using transformer-based GAN*.
- Proposed a novel method to detect anomalies in Diabetic Retinopathic images using adversarial learning.

Raaga Products Pvt Ltd	**July 2020 – Oct 2020**

Machine Learning Intern *Bengaluru, KA*

- Worked on the project *A semi-supervised approach for detecting Diabetic Retinopathy*.
- Generated labels for another dataset by using semi-supervised approaches to tackle the lack of datasets

PUBLICATIONS [1]

Are Class Vectors good Meta-learners? A Preliminary study on low-resourced Languages
Under review at the Association of Computational Linguistics, ACL 2022

Modeling Homophobia and Transphobia detection using Data-Augmentation in a Multilingual Code-mixing Setting
Under review at the Association of Computational Linguistics, ACL 2022

Offensive Language Identification in Low-resourced Code-mixed Dravidian languages using Pseudo-labeling
Under review in the Computer Speech and Language Journal [**Preprint**]

Benchmarking Multi-Task Learning for Sentiment Analysis and Offensive Language Identification in Under-resourced Dravidian Languages
Under review in the Soft Computing Journal [**Preprint**]

Findings of the Sentiment Analysis of Dravidian Languages in Code-Mixed Text
Accepted at the Forum for Information Retrieval, FIRE 2021 [**Preprint**]

Do Images really do the Talking? Analysing the significance of Images meme classification
Accepted in the Advances in Computational Intelligence Journal [**Preprint**]

Hope Speech detection in under-resourced Kannada langu0age [**Preprint**]
Under review in the Pattern Recognition Letters Journal

KanCMD: Kannada CodeMixed Dataset for Sentiment Analysis and Offensive Language [**Paper**]

Attentive Fine-tuning of Transformers for Translation of low-resourced languages [**Paper**]

Leveraging Pretrained Language Models for Multilingual Protest Detection [**Paper**]

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[1] **Google Scholar**

Domain Identification of Scientific Articles using Transfer Learning and Ensembles [**Paper**]

Tamil Troll Meme Classification: You need to Pay more Attention [**Paper**]

Transfer Learning for Offensive Language Detection in Dravidian Languages [**Paper**]

Hope Speech Detection: There is always hope in Transformers [**Paper**]

Evaluating Pretrained Transformer-based Models for COVID-19 Fake News Detection [**Paper**]

Technical Skills

Languages: Python, Java, C, Julia, JavaScript, SQL

Developer Tools: Pycharm, VS Code, AWS, Google Cloud Platform, Android Studio, LaTeX

Technologies/Frameworks: Linux, GitHub, GitLab

PROJECTS

English to Irish & Marathi Translation System [**code**] | *Python, AWS Sagemaker* **May 2021 - July 2021**
- Fine-tuned IndicTrans, the largest language model available at the time, on Samanantar Dataset.
- The model was fine-tuned on the training data a parallel Bible corpus for Marathi. The parallel bible parallel corpus from a previous task (MultiIndicMT task in WAT 2020) was used.

Multi-task Learning for Auxiliary tasks [**code**] | *Python, Pycharm, low-resourced languages* **Oct 2020 - Jun 2021**
- Developed Multi-task learning frameworks to address the lack of annotated data for low-resourced languages
- Experimented with several loss functions and benchmarked the models on the datasets of three low-resourced languages.

Dual Channel Language Model [**code**] | *Python, Text Classification* **Dec 2020 - May 2021**
- Constructed a corpus consisting of 7K comments for sequence classification.
- The dataset crossed **5,000** downloads on Huggingface datasets library [Dataset]
- Utilised parallel translations of the code-mixed texts to English by Google Translate API.

ACADEMIC AWARDS AND ACHIEVEMENTS

- Recipient of the Udacity AWS Machine Learning Scholarship 2021
- Selected to attend the 11th Lisbon Machine Learning Summer School of 2021, at Instituto Superior Técnico (IST), Portugal.
- Offered Summer Internship at the School of AI and Data Science, IIT Jodhpur.
- 1st rank in the shared task on MT systems for COVID-related texts at the Technologies for MT of Low Resource Languages, LoResMT at MT Summit 2021 (out of 150 submissions).
- Selected to attend the FAccT AI Winter School 2020 at IIT Kharagpur
- Ranked in the top 1% (174/18000+ teams) at Janataka Hack Independence Day Hackathon.

POSITIONS OF RESPONSIBILITY

Organizer & Reviewer **Spring 2021 – Present**
Multiple Venues *IIIT Trichy*
- Program Committee (PC) member for two workshops of DravidianLangTech and LT-EDI at the European Chapter of Computational Linguists (EACL) 2021.
- Jointly Organizing a shared task on Sentiment Analysis in Dravidian languages (DravidianCodeMix) at FIRE 2021.
- Reviewed 2 manuscripts for Springer Nature's SN Computer Science Journal
- Organizing member for *Choose to Challenge - Together We Can*, a 5-day national workshop at IIIT Trichu.

Training and Placement Cell **Spring 2020 – Present**
Coordinator *IIIT Trichy*
- Assisted in conducting successful placement drives across all departments of the university.
- Managed a team of 5 members and ran biweekly meetings to oversee progress in essential parts of contacting recruiters
- Conducted several pre-placement drives and mock exams to acquaint the students for placements.

Aikyam **Spring 2020 – Present**
Co-editor *IIIT Trichy*
- Co-editor of Aikyam, a bimonthly magazine of IIIT Trichy that aims to promote the cultural diversity of India.
- Jointly led a team of 15 members to work towards collecting and reviewing contents received in various languages.

DeepLearning.AI **Spring 2020 –Spring 2021**
Ambassador *Tiruchirappalli, TN*
- Pie & AI Ambassador for DeepLearning.AI, representing the area of Tiruchirappalli, TN, India.
- Conducted several meetups to increase the awareness on AI in Tiruchirappalli, India