

ADEEP HANDE

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Education

Indiana University Bloomington

Masters in Data Science

Specialization: Applied Data Science

Aug. 2022 – May 2024

Bloomington, Indiana, USA

Indian Institute of Information Technology Trichy

Bachelor of Technology in Computer Science, CGPA = 8.22/10.0

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

Aug. 2018 – May 2022

Trichy, TN, India

EXPERIENCE

Tata Communications (Corporate Strategy – Innovations)

Data Scientist Intern

Dec. 2021 – Jul. 2022

Mumbai, India

- **AI-Based Network Expansion Planning:** Developed an AI-based Network Expansion application to cluster the network feasibility requests in real-time to find the cluster that has the highest bandwidth potential for Network Expansion for both Wireline and Wireless Planning. Deployed the web application using Docker and Streamlit.
- **FPaaS (Fraud Prevention as a Service):** Explored the effectiveness of Machine Learning Algorithms over rule-based systems for a real-time Fraud Prevention as a Service (FPaaS) engine based on hundreds of Billions of Call Detail Records (CDRs).

Insight SFI Research Centre for Data Analytics

Research Intern

Jul. 2020 – May 2022

Online

- 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

Research Intern

May 2021 – July 2021

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.

PUBLICATIONS ¹

– Offensive Language Identification in Low-resourced Code-mixed Dravidian languages using Pseudo-labeling

Accepted in the Computer Speech and Language Journal

[Preprint]

– Multi-task learning in under-resourced Dravidian languages.

Journal of Data, Information and Management, 1-29 (2022)

[Paper]

– KanCMD: Kannada CodeMixed Dataset for Sentiment Analysis and Offensive Language

PEOPLES-2020 Workshop @ COLING-2020

[Paper]

– Modeling Homophobia and Transphobia detection using Data-Augmentation in a Multilingual Code-mixed Setting

Accepted at the International Journal of Information Management Data Insights

– Findings of the Sentiment Analysis of Dravidian Languages in Code-Mixed Text

Forum for Information Retrieval, FIRE 2021

[Paper]

– Do Images really do the Talking? Analysing the significance of Images meme classification

Accepted in the Advances in Computational Intelligence Journal

[Preprint]

– The Best of both Worlds: Dual Channel Language modeling for Hope Speech Detection in low-resourced Kannada

LT-EDI-2022 Workshop @ACL-2022

[Paper]

– Attentive Fine-tuning of Transformers for Translation of low-resourced languages

¹More on [Google Scholar](#)

LoResMT-2021 Workshop @ MT Summit-2021 [\[Paper\]](#)

– **Domain Identification of Scientific Articles using Transfer Learning and Ensembles**
PAKDD-2022 [\[Paper\]](#)

– **Tamil Troll Meme Classification: You need to Pay more Attention**
DravidianLangTech-2021 Workshop @ EACL-2021 [\[Paper\]](#)

– **Transfer Learning for Offensive Language Detection in Dravidian Languages**
DravidianLangTech-2021 Workshop @ EACL-2021 [\[Paper\]](#)

– **Hope Speech Detection: There is always hope in Transformers**
LT-EDI-2021 Workshop @ACL-2021 [\[Paper\]](#)

– **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, L^AT_EX

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 7̃K 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 FAcT 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

Springer & Elsevier

- 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 Trichy.

DeepLearning.AI

Spring 2020 –Spring 2021

Ambassador

Trichy, TN

- Pie & AI Ambassador for DeepLearning.AI, representing the area of Trichy, TN, India.
- Conducted several meetups to increase the awareness on AI in Trichy, India