ICFOSS FOSSMEC NSDC MEC

EVENT REPORT STTP

SHORT TERM TRAINING PROGRAM ON DEEP DIVE INTO NLP

19-21 FEB 2024
ORGANISED BY
MODEL ENGINEERING COLLEGE,THRIKKAKARA

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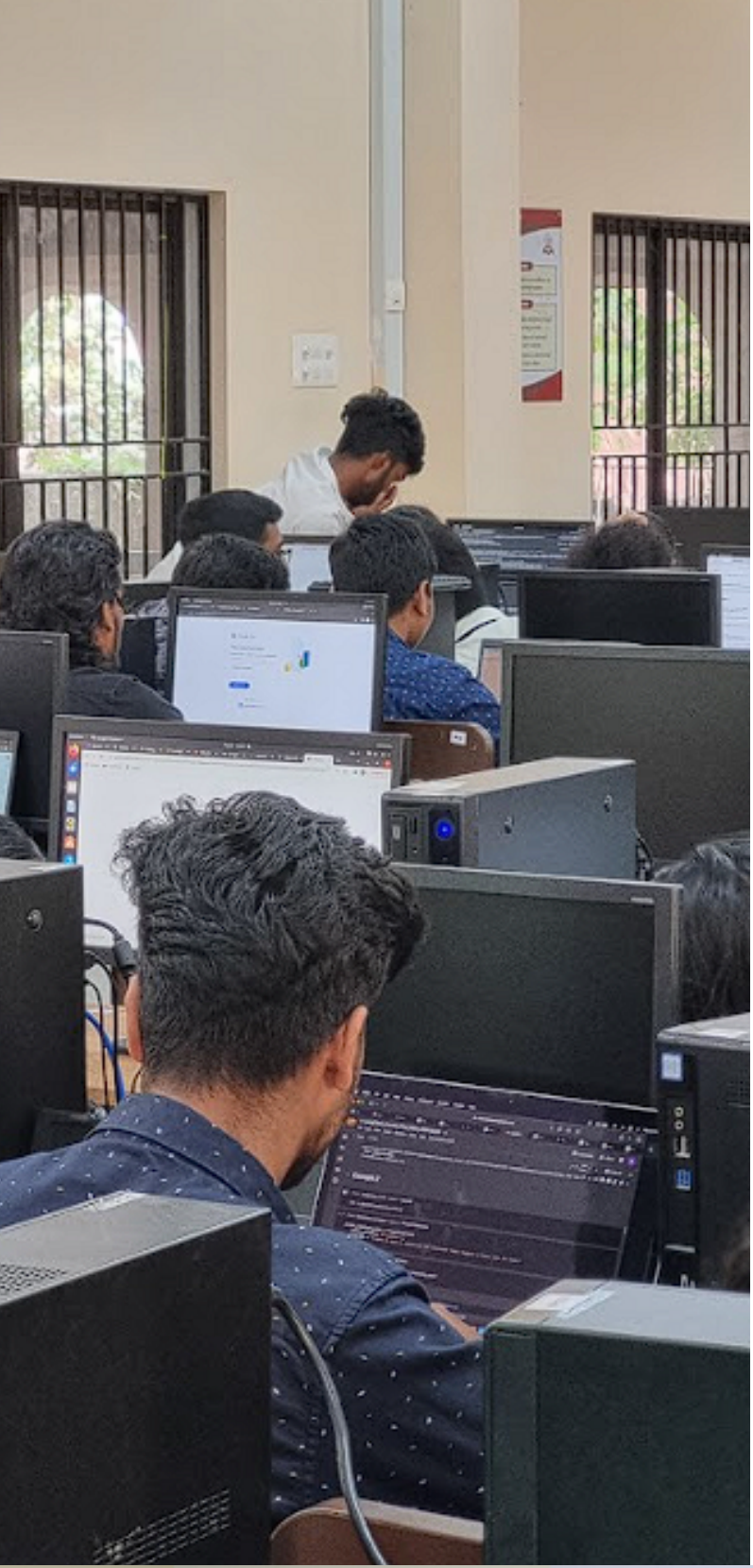


ABOUT STTP

The Short Term Training Program on Natural Language Processing covers Basic Text processing, vectorization methods and advanced topics like LSTM,Transformer architecture,and attention mechansims. Hands-on workshops focus on practical applications, including entity linking, information extraction, text summarization, classification, sentiment analysis and opinion minig. Participants acquire a strong understanding of NLP for real-world scenarios.

The training program initiates with an in-depth exploration of fundamental concepts in Natural Language Processing (NLP). Participants engage in sessions covering basic text processing techniques, including tokenization, stemming, and lemmatization. . These sessions lay a robust foundation for understanding how textual data is preprocessed and transformed into numerical representations for further analysis.
Building upon the basics, participants delve into advanced topics crucial in contemporary NLP. The program delves into the intricate workings of Long Short-Term Memory (LSTM) networks, exploring how they effectively model sequential data and overcome the challenges posed by vanishing and exploding gradients. Additionally, participants gain insights into Transformer architecture, a paradigm-shifting approach in NLP, and delve into attention mechanisms, which enhance model performance by allowing the network to focus on relevant parts of the input sequence.

OUR SPEAKERS

- **Dr Sunil TT**
  Director
  IC Foss

- **Dr Nisha Varghese**
  Assistant Professor
  Bangalore

- **Ms Alaka Krishnan R U**
  Senior Software Engineer
  IC FOSS

- **Ms Desmi Davis**
  Gender and Technology
  Fellow, ICFOSS

DAY 1

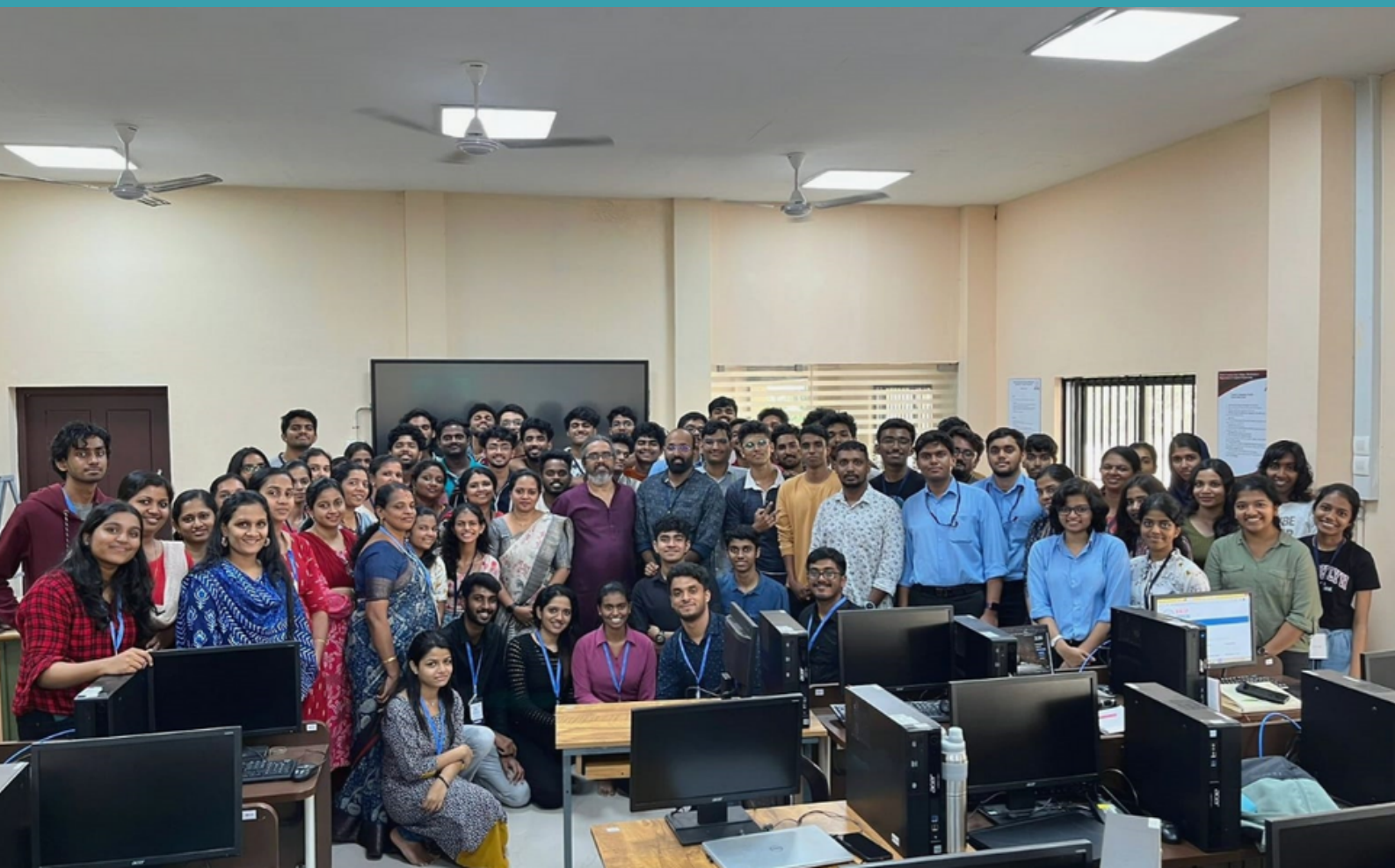
The Short Term Training Program on Natural Language Processing commenced with great enthusiasm on February 19, 2024, at the CCF Hall, ICFOSS. The event aimed to provide participants with comprehensive knowledge and practical skills in NLP, catering to both beginners and professionals in the field.

The morning session commenced with an introduction to the fundamentals of NLP, including basic text processing and linguistic constraints. Dr. Nisha Varghese, Assistant Professor from the School of Science, Bangalore Campus, and Ms. Desmi Davis, G&T Fellow from ICFOSS, led the sessions. Participants were introduced to various vectorization methods essential for NLP tasks.

A brief break was provided for participants to rejuvenate and network with fellow attendees.

Post-lunch, the focus shifted towards Machine Learning basics, specifically Long Short-Term Memory (LSTM) and its variants. Dr. Sunil TT, Director of ICFOSS, delving deeper into ML Basics. The sessions were interactive, with attendees actively engaging in discussions and queries.

Dr. Nisha Varghese conducted a comprehensive session on Long Short-Term Memory (LSTM) and its variants. Delving into the intricacies of this advanced topic, participants gained a deeper understanding of sequential data processing in NLP. She elucidated various variants and applications of this powerful architecture. Attendees actively engaged in the session, absorbing insights into how LSTM enhances NLP tasks.



DAY 2

Day 2 of the Short Term Training Program on Natural Language Processing continued the journey into the depths of NLP, with a focus on advanced concepts and practical applications.

Ms. Alaka Krishnan, Senior Software Engineer at ICFOSS, commenced the morning session with an in-depth exploration of Transformer and Attention Mechanism. Participants were captivated by the complexities and applications of these pivotal concepts in NLP. In the latter half of the morning session, Ms. Krishnan shifted the focus towards BERT and its variants, shedding light on their significance and impact in the field.

A well-deserved lunch break provided attendees with an opportunity to refuel and network with peers.

The afternoon session was dedicated to hands-on learning, led by Ms. Desmi Davis, G&T Fellow at ICFOSS. Participants engaged in practical exercises focused on entity linking and information extraction, gaining valuable insights into real-world NLP applications.

The day concluded with a dynamic Q&A session and group discussion moderated by Ms. Desmi Davis. Participants had the chance to clarify doubts, share experiences, and exchange ideas, fostering a collaborative learning environment.

DAY 3

Day 3 of the Short Term Training Program on Natural Language Processing focused on practical applications and real-world scenarios in NLP, providing participants with valuable insights and hands-on experience.

Ms. Alaka Krishnan, Senior Software Engineer at ICFOSS, commenced the day with a comprehensive recap of Day 2's discussions, followed by an overview of NLP applications. Participants revisited key concepts and gained a broader understanding of how NLP techniques are utilized in various domains. Ms. Krishnan continued the morning session with in-depth discussions on text summarization and text classification techniques. Participants learned about different approaches and algorithms used to summarize and classify textual data, enhancing their skills in NLP tasks.

A lunch break provided participants with an opportunity to recharge and network with peers, fostering collaboration and knowledge exchange.

In the afternoon session, Ms. Krishnan led a hands-on workshop focusing on sentiment analysis and opinion mining. Participants actively engaged in practical exercises, learning to extract and analyze sentiments and opinions from textual data. The workshop provided valuable insights into the application of NLP in understanding public sentiment and opinion trends.
The day concluded with a dynamic Q&A session. Participants had the opportunity to seek clarification on any lingering doubts and share their experiences from the training program. Following the Q&A session, closing remarks were delivered expressing gratitude to the participants and speakers for their active participation and valuable contributions.

FINAL CLOSING

Over the course of three days, participants delved into various aspects of Natural Language Processing, from foundational concepts to advanced applications. Led by industry expert Ms. Alaka Krishnan, Senior Software Engineer at ICFOSS, and moderated by Ms. Desmi Davis, G&T Fellow at ICFOSS, the training program provided a comprehensive overview of NLP techniques, algorithms, and real-world applications.

THANKING NOTE

We extend our sincere gratitude to all participants, speakers, moderators, and organizers for their invaluable contributions to the training program. Special thanks to Dr Sunil TT,Dr Nisha Abraham, Ms. Alaka Krishnan and Ms. Desmi Davis for their exceptional guidance and facilitation throughout the program.