Who can register?
Faculty Members of AICTE approved institutions, Research Scholars, Persons working in R & D organizations, Industry persons & PG students

Registration Link
https://atalacademy.aicte-india.org/

Registration for the FDP program can be done by signing in the ATAL portal. In the portal, Click on Workshops option at left side pane and select the month as November. Then select the FDP with title “Data Analysis Tools & Techniques for Text and Speech Analytics”

Important Dates
Last date for registration: 31-10-2022

Criteria to get certificate
80% of the attendance and 60% minimum score in written test are mandatory to get the certificate.

Contact
Dr. D. Veeraiyah, Professor & HOD
+91 8333905834
veeraiyahdv@gmail.com

RESOURCES PERSONS
1. Prof. Pradip K Das, IIT Guwahati
2. Dr. Mohit Kumar, NIT Hamirpur
3. Mr. Ritesh Ratti, Delivery Hero, Germany
4. Dr. Swarup Ranjan Behera, Reliance Jio
5. Dr. P. Bhagath, LBRCE Mylavaram

AJTE Training And Learning (ATAL) Academy
Sponsored
A Two-Week Faculty Development Program on
Data Analysis Tools & Techniques for Text and Speech Analytics

Online: 14th - 19th November 2022
Offline: 21st - 25th November 2022

CONVENOR AND COORDINATOR
Dr. D. Veeraiyah
Professor & HOD, Dept of CSE

CO-CORDINATOR
Dr. P. Bhagath
Associate Professor, Dept of CSE

Associate Coordinators
1. Dr. M. Sitharam, Assoc. Professor
2. Dr. S. Nagarjuna Reddy, Assoc. Professor
3. Mr. Sk. Johny Basha, Sr. Asst. Professor
4. Mr. S. Srinivasa Reddy, Sr. Asst. Professor

ADVISORY COMMITTEE
1. Dr. P. Sreenivasa Kumar, IIT Madras
2. Dr. G. Rammohan Reddy, NITK, Suratkal
3. Dr. L. Sumalatha, JNTUK Kakinada
4. Dr. K. V. Ramana, JNTUK Kakinada
5. Dr. D. Vasumathi, JNTUH Hyderabad
6. Dr. A. S. N. Chakravarthy, UCEV, JNTUV
7. Dr. M. H. M. Krishna Prasad, JNTUK
8. Dr. E. V. Krishna Rao, Dean R&D, LBRCE
9. Dr. Ch. V. Narayana, LBRCE
10. Dr. D. Venkata Subbaiah, LBRCE
11. Dr. B. Srinivasa Rao, LBRCE
12. Dr. O. Rama Devi, LBRCE

ORGANIZING COMMITTEE
All the faculty members of CSE department

Committee Members
Chief Patrons:
1. Sri. L. Jaya Prakash Reddy, Honorary Chairman
2. Sri. L. R. N. K. Prasad Reddy, Chairman
3. Sri. L. Vijaya Kumar Reddy, Vice- Chairman
Patrons:
1. Sri. G. Srinivasa Reddy, President
2. Dr. K. Appa Rao, Principal
3. Dr. K. Harinadh Reddy, Vice Principal
4. Dr. M. Srinivasa Rao, Dean of Academics

Criteria to get certificate
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Last date for registration: 31-10-2022

Lakireddy Bali Reddy College of Engineering (A)
Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada
L. B. Reddy Nagar, Mylavaram - 521230, NTR District, A. P. India

Contact
Dr. D. Veeraiyah, Professor & HOD
+91 8333905834
veeraiyahdv@gmail.com

Accredited by NAAC with ‘A’ Grade (GPA: 3.20/4)
NIRF-2022 (Rank Band: 251 - 300)
Accredited by NBA under Tier - 1(CSE, IT, ECE, EEE & ME)
Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada
L. B. Reddy Nagar, Mylavaram - 521230, NTR District, A. P. India
LBRCE was founded by Lakireddy Bali Reddy charitable trust in the year 1998 to facilitate technical education to the rural people of Andhra Pradesh. The organization has been striving progressively towards the excellence for the last two decades. The current intake of the institution is 1164 where it started with an initial intake of 180 students. The institution is received autonomous status in the year 2010 from UGC (University Grants Commission), accredited by NAAC. The various departments such as CSE, IT, ECE, EEE, and ME have been accredited by NBA under Tier-1 which is valid up to 2024-25. The college has also been recognized by UGC under 2(f) and 12(B) in addition to the status of 'College with potential for excellence (CPE)'.

About the Department
The department of Computer Science and Engineering was established in the year 1998 and offers Bachelor of Technology in CSE, CSE (AI & ML), and Master of Technology in CSE. The initial intake of the B. Tech program was 40 while the current intake reached 240. The department was accredited by NBA since 2008. JNTUK Kakinada recognized the department as a research centre. The department consists of 43 faculty members with 13 Ph. Ds from IIT, NIT, and State Universities.

TOPICS TO BE COVERED

1. Applications of data science in NLP
   - Introduction to Text analytics
   - NLP use-cases in industry
   - NLP for social data analytics

2. Fundamentals of Speech Recognition
   - Basic understanding of speech data
   - Temporal speech signal representations
   - Frequency domain speech signal representations

3. Tools and Techniques for spoken language processing
   - Speech Processing framework
   - HMM and GMM for Speech processing

4. Text Analytics
   - Transformer based models
   - Recommendation systems

5. Structural Speech Processing
   - Fundamentals of Graph Signal Processing (GSP)
   - Python libraries to processing speech data

KEY TAKE AWAYS
1. Applications of Text and Speech analytics
2. Frameworks for text analytics useful in NLP
3. Python speech processing framework
4. A comprehensive knowledge on Graph Signal Processing (GSP)
5. Preliminaries on Dataset creation

About ATAL Academy
1. The vision of the ATAL academy is to empower the faculty to achieve goals of higher education such as access, equity, quality
2. The academy supports technical institutions in fostering research, innovation, and entrepreneurship through training
3. ATAL academy provides a variety of opportunities for training and exchange of experiences such as workshops, orientations, learning communities, peer monitoring and other faculty development programs
4. ATAL academy stress upon empowering technical teachers and technicians using information and communication technology

About the FDP
Data science is a multi-disciplinary area that uses scientific methods, algorithms, and systems to extract hidden knowledge and insights from data. Mining large amounts of structured and unstructured data to identify patterns can help an organization in many ways. Data science is confluence of Mathematics, Statistics, and Computer Science disciplines that incorporates techniques like machine learning, cluster analysis, data mining and visualization. The two-week FDP program is devoted to offer a wide overview in the context of text and speech analytics. The curriculum of the FDP is designed to cover both theoretical and practical knowledge that will help diverse groups including academicians, industry professionals, researchers, etc.

Objectives of the FDP
1. To disseminate the knowledge of data science among students, researchers, and academicians
2. Provide conceptual understanding in the domains of NLP and speech processing
3. To create awareness and interest in latest developments to the academia
4. Empower professionals in the field of data science to fulfill the growing necessity of various organizations
5. Providing knowledge on essential frameworks for text and speech analytics
<table>
<thead>
<tr>
<th>Date</th>
<th>Theme: Text Analytics</th>
<th>Mr. Ritesh Ratti</th>
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<tbody>
<tr>
<td>14-11-2022</td>
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<tr>
<td></td>
<td>Session 1 (I) 7:00 PM to 7:50 PM</td>
<td>Introduction to Text Analytics</td>
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<td>Session 1 (II) 8:00 PM to 8:50 PM</td>
<td>Transformer based models for NLP</td>
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<td>9:00 PM to 9:30 PM</td>
<td>Interactions</td>
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<tr>
<td>15-11-2022</td>
<td>Theme: Advanced Tools for NLP</td>
<td>Dr. Swarup Ranjan Behera</td>
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<td>Session 2 (I) 7:00 PM to 7:50 PM</td>
<td>NLP for Industry applications</td>
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<td>Session 2 (II) 8:00 PM to 8:50 PM</td>
<td>Deploying ML applications</td>
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<td>Interactions</td>
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<tr>
<td>16-11-2022</td>
<td>Theme: Introduction to Speech Recognition</td>
<td>Prof. Pradip K Das</td>
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<td>Session 3 (I) 7:00 PM to 7:50 PM</td>
<td>Fundamentals of Speech Recognition</td>
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<td>Session 3 (II) 8:00 PM to 8:50 PM</td>
<td>Frameworks in Speech Recognition</td>
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<td>9:00 PM to 9:30 PM</td>
<td>Interactions</td>
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<td>17-11-2022</td>
<td>Theme: Markov Models for Speech Processing</td>
<td>Dr. Mohit Kumar</td>
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<td>Session 4 (I) 7:00 PM to 7:50 PM</td>
<td>Hidden Markov Models</td>
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<td>Session 4 (II) 8:00 PM to 8:50 PM</td>
<td>Speaker Characterization</td>
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<td>Interactions</td>
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<td>18-11-2022</td>
<td>Theme: Mixture Models for Speech Recognition</td>
<td>Dr. Mohit Kumar</td>
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<td>Session 5 (I) 7:00 PM to 7:50 PM</td>
<td>Applications of GMM to Speaker recognition</td>
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<td>Session 5 (II) 8:00 PM to 8:50 PM</td>
<td>Intuition of Structural ProcessingMethods</td>
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<td>Interactions</td>
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<tr>
<td>19-11-2022</td>
<td>Theme: Spoken language understanding for low-resource languages</td>
<td>Dr. P. Bhagath</td>
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<td>Session 6 (I) 7:00 PM to 7:50 PM</td>
<td>Speech recognition for Low resource languages in Indian context</td>
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<td>Session 6 (II) 8:00 PM to 8:50 PM</td>
<td>Phoneme Boundary Analysis</td>
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<td>21-11-2022</td>
<td>09:00 - 09:30</td>
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<td>09:30 – 12:00</td>
<td>Session – 7 Dataset preparation for speech recognition</td>
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<td>12:00 – 01:00</td>
<td>Article - 1 Discussion</td>
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<td>01:00 – 02:00</td>
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<td>02:00 – 04:30</td>
<td>Session – 8 Practice problems on feature extraction and visualization</td>
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<td>22-11-2022</td>
<td>09:30 - 12:00</td>
<td>Session - 9 Speaker Recognition Frameworks</td>
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<td>12:00 – 01:00</td>
<td>Article - 2 Discussion</td>
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<td>02:00 – 04:30</td>
<td>Session - 10 Speaker Recognition Frameworks</td>
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<td>23-11-2022</td>
<td>09:30 - 12:00</td>
<td>Session - 11 NLP Use-cases</td>
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<td>02:00 – 04:30</td>
<td>Session - 12 Application Building for NLP application</td>
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<td>24-11-2022</td>
<td>09:30 - 12:00</td>
<td>Session - 13 Speech Recognition System Framework</td>
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<td>12:00 – 01:00</td>
<td>Article - 4 Discussion</td>
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<td>02:00 – 04:30</td>
<td>Session – 14 Digit Recognition system Development</td>
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<td>25-11-2022</td>
<td>10:00 - 12:00</td>
<td>Project Charter</td>
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<td>12:00 – 01:00</td>
<td>MCQs or Interactions</td>
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<td>02:00 – 04:30</td>
<td>Reflection Journal, Feedback, Valedictory</td>
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