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Forcing S-Geodetic Number of A FuzzyGraph

Sameeha Rehmani

Journal of Harbin Engineering University, Vol 44, No. 11

Dr. Sameeha

ABSTRACT

Chartrand and Zhang in 1999 introduced the idea of forcing geodetic number of crisp graphs and determined it for several classes of graphs. In this paper, the concept is extended to fuzzy graphs using sum distance and is called the forcing s-geodetic number. A characterization of the forcing sgeodetic number depending on the s-geodetic bases present in the fuzzy graph is identified. The forcing s-geodetic number of fuzzy trees, complete fuzzy graphs and of fuzzy cycles subject to certain conditions are identified.

Journal Article

UGC APPROVED JOURNAL
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POLITICAL DYNAMISM OF THE ULAMA: UNDERSTANDING THE VIBRANCY OF THE MUSLIM SCHOLARS IN SIXTEENTH CENTURY MALABAR

Musthafa Farook P.

Shodhak : A Journal of Historical Research, Volume: 53

Dr.Musthfa Farooq

ABSTRACT

The religious scholars held a particularly respectable standing in Medieval societies. The scholars, or ulama, in Muslim societies, performed not only religious responsibilities but also had an impact on the followers' social, cultural, and political actions. The scenario wasn't different in Malabar, in northern Kerala where the ulama wielded unfettered authority in the lives of the Mappila community. When the native rulers organized the resistance against the Portuguese Mappila laymen participated in it and the ulama extended immense support to it. Some scholars treated the war against the foreigners as a holy war (jihad) and urged the believers to actively participate in it. Many treatises were written in the land to incite the followers to rally behind the rulers in their anti-colonial agitation.This article throws light on three such works that are called defensive literary pieces and analyzes their significance in the political history of Kerala.

Journal Article

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POLITICAL DYNAMISM OF THE ULAMA: UNDERSTANDING THE VIBRANCY OF THE MUSLIM SCHOLARS IN SIXTEENTH CENTURY MALABAR

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ABSTRACT

The religious scholars held a particularly respectable standing in Medieval societies. The scholars, or ulama, in Muslim societies, performed not only religious responsibilities but also had an impact on the followers' social, cultural, and political actions. The scenario wasn't different in Malabar, in northern Kerala where the ulama wielded unfettered authority in the lives of the Mappila community. When the native rulers organized the resistance against the Portuguese Mappila laymen participated in it and the ulama extended immense support to it. Some scholars treated the war against the foreigners as a holy war (jihad) and urged the believers to actively participate in it. Many treatises were written in the land to incite the followers to rally behind the rulers in their anti-colonial agitation.This article throws light on three such works that are called defensive literary pieces and analyzes their significance in the political history of Kerala.

Journal Article

UGC APPROVED JOURNAL
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The Cult of Shaheed in Mappila Riots: the Aberrations and Perversions in 19th Century Malabar

Musthafa Farook P.

Journal of the Asiatic Society of Mumbai, Vol. XCVI, No. 32, 2023

Dr.Musthfa Farooq

ABSTRACT

The Mappila riots, a series of uprisings that took place in the Malabar region of Kerala, India, during the 19th and early 20th centuries, were marked by a unique and profound concept of shaheed (martyrdom). This article delves into the historical and cultural context surrounding the Mappila riots and explores how the notion of Shaheed played a pivotal role in shaping the events, motivations, and perceptions of the participants. This article uncovers the multifaceted dimensions of Shaheed in the Mappila context and analyses how religious, political, and socio-economic factors intersected with the concept of martyrdom, driving individuals to sacrifice their lives for a cause they believed in. The Mappila riots are a crucial case study to understand the complex interplay of religion, identity, and resistance in the colonial era. This article not only sheds light on the historical events themselves but also contributes to a broader discussion on the evolution of martyrdom in the context of anti-colonial struggles and the construction of religious and political identities.

Journal Article

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Modulation instability induced supercontinuum generation in Barium Zinc Borate glass doped with Praseodymium based photonic crystal fiber

P Vijayakumari, Trabelsi Youssef , A Sharafali, M M Neethish, T Liyana

Optical and quantum electronics, 55

Dr. Sharafali

ABSTRACT

In this work, we propose a novel Barium Zinc Borate glass doped with Praseodymium (BZBP) based photonic crystal fiber (PCF) as a potential candidate for supercontinuum generation. We focused on the increased nonlinearity of the proposed PCF because of high nonlinear refractive index of BZBP. To demonstrate the supercontinuum generation, we have considered one of the important nonlinear phenomena called modulation instability, which leads to pulse breaking and generation of ultrashort pulses along with broad spectra. The proposed BZBP based PCF can be used to achieve ultrabroad spectra within short propagation distance by using a pulse of large pulse width and low peak power.

Journal Article

Scopus®

Local Convergence of Traub's Method and Its Extensions.

Saeed, M. K., Remesh, K., George, S., Padikkal, J., Argyros, I.

Fractal and Fractional, 7(1), 98

Dr. Saeed

ABSTRACT

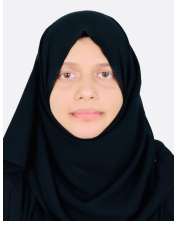
In this article, we examine the local convergence analysis of an extension of Newton's
method in a Banach space setting. Traub introduced the method (also known as the Arithmetic-Mean Newton's Method and Weerakoon and Fernando method) with an order of convergence of three.
All the previous works either used higher-order Taylor series expansion or could not derive the desired order of convergence. We studied the local convergence of Traub's method and two of its modifications and obtained the convergence order for these methods without using Taylor series expansion. The radii of convergence, basins of attraction, comparison of iterations of similar iterative methods, approximate computational order of convergence (ACOC), and a representation of the number of iterations are provided.

Journal Article

Analysis of Influential Features with Spectral Features for Modeling Dialectal Variation in Malayalam Speech Using Deep Neural Networks

Rizwana Kallooravi Thandil and K. P. Mohamed Basheer

Lecture Notes in Networks and Systems 572, 572



Dr. Rizwana K.T

Dr. K.P.M Basheer

ABSTRACT

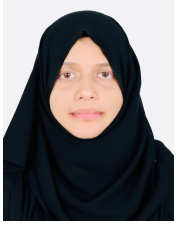
Over the past few decades, research has focused heavily on automatic speech recognition (ASR). Although ASR for a few languages is close to reality; ASR for the low resource languages like Malayalam is still in its infancy. Here, in this work, the authors discuss the experiment conducted on accented data of Malay- alam speech using two approaches. One approach uses the spectral features for modeling using deep convolutional neural network and the other uses the influential features of speech signals for modeling using LSTM-RNN approach. The proposed methodology comprises three distinct stages; dataset preparation, feature extraction, classification, and hence the construction of deep learning models that recognize the accent-based spoken sentences in the Malayalam language. Mel-frequency cepstral coefficient (MFCC) algorithm, short-term Fourier transform (STFT), and mel spec- trogram methodologies are used for feature engineering and hence the features that represent the speech signals are used for constructing the accented ASR system for the Malayalam language using long short-term memory (LSTM) a recurrent neural network (RNN). The spectrogram dataset has been constructed for the speech dataset and used for constructing the ASR model with deep convolutional neural network (DCNN). The result of the experiment shows that LSTM-based RNN outperforms DCNN for the proposed dataset that has been constructed for the experiment in the natural recording environment.

Book Chapter

Deep Spectral Feature Representations Via Attention-Based Neural Network Architectures for Accented Malayalam Speech—A Low-Resourced Language

Rizwana Kallooravi Thandil, K. P. Mohamed Basheer & V. K. Muneer

Lecture Notes in Networks and Systems, Volume 788



Dr. Rizwana K.T

Dr. K.P.M Basheer

ABSTRACT

This study presents a novel methodology for Accented Automatic Speech Recognition (AASR) in Malayalam speech, utilizing Recurrent Neural Network (RNN) and Long Short-Term Memory (LSTM) architectures, both integrated with attention blocks. The authors constructed a comprehensive accented speech corpus comprising speech samples from five distinct accents of the Malayalam language. The study was conducted in four phases, with each phase exploring different combinations of features and model architectures. In the first phase of the study, the authors utilized Mel frequency cepstral coefficients (MFCC) as a feature vectorization technique and combined it with Recurrent Neural Network (RNN) to model the accented speech data. This configuration yielded a Word Error Rate (WER) of 11.98% and a Match Error Rate (MER) of 76.03%. In the second phase, the experiment utilized MFCC and tempogram methods for feature vectorization, combined with RNN incorporating an attention mechanism. This approach yielded a Word Error Rate (WER) of 7.98% and a Match Error Rate (MER) of 82.31% for the unified construction of the accented data model. In the third phase, MFCC and tempogram feature vectors along with the LSTM mechanism were employed to model the accented data. This configuration resulted in a Word Error Rate (WER) of 8.95% and a Match Error Rate (MER) of 83.64%. In the fourth phase, the researchers utilized the same feature set as in phases two and three and introduced LSTM with attention mechanisms to construct the accented model. This configuration led to a Word Error Rate (WER) of 3.8% and a Match Error Rate (MER) of 87.11%. The experiment yielded impressive results, with a Word Error Rate (WER) of 3.8% and a Match Error Rate (MER) of 87.11%. Remarkably, the study demonstrated the effectiveness of the LSTM with attention mechanism architecture, showcasing its ability to perform well even for unknown accents when combined with the appropriate accent

Book Chapter

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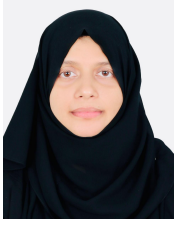
Empowering Accented Speech Analysis in Malayalam Through Cutting-Edge Fusion of Self Supervised Learning and Autoencoders

Rizwana K.T, K.P.M Basheer, Muneer V.K

Int. Journal of Intelligent Systems and Applications in Engineering, Vol. 12 No. 9s

Dr. V.K Muneer



Dr. Rizwana K.T

Dr. K.P.M Basheer

ABSTRACT

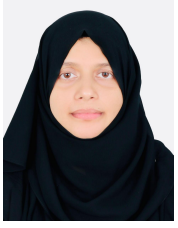
This research explores the application of autoencoders in handling accented speech data for the Malayalam language. The primary objective is to leverage the power of autoencoders to learn a compressed representation of the input data and utilize it to train various machine learning models for improved accuracy rates and reduced word error rates (WER). The study involves a two-step process. Firstly, an autoencoder neural network architecture is employed to encode the accented speech data into a lower-dimensional latent space representation. The encoder network effectively captures the essential features and patterns present in the data. The compressed representation obtained from the encoder is then fed into the decoder, which reconstructs the original input data. In the second step, the encoded model is utilized to train several machine learning models, including logistic regression, decision tree classifier, support vector machine (SVM), random forest classifier(RFC), K-nearest neighbors (KNN), stochastic gradient descent (SGD), and multilayer perceptron (MLP). The encoded features act as inputs to these models, enabling them to learn from the compact representation of the accented speech data. Experimental results indicate that the trained machine learning models, using the encoded features, achieve higher accuracy rates compared to traditional approaches. This improvement in accuracy demonstrates the effectiveness of autoencoders in capturing and representing the significant characteristics of the accented speech data. Moreover, the utilization of the encoded model also leads to lower word error rates, indicating enhanced performance in accurately transcribing and recognizing accented speech in the Malayalam language. This finding showcases the potential of autoencoders in improving the overall accuracy and efficiency of speech-processing tasks for accented languages.

Book Chapter

End-to-End Multi-dialect Malayalam Speech Recognition Using Deep-CNN, LSTM-RNN, and Machine Learning Approaches

Rizwana Kallooravi Thandil, K. P. Mohamed Basheer & V. K. Muneer

Lecture Notes on Data Engineering and Communications Technologies, Volume 163



Dr. Rizwana K.T

Dr. K.P.M Basheer

ABSTRACT

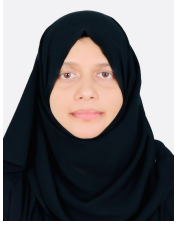
Research in Malayalam speech recognition is constrained by the scarcity of speech data. Accent variation poses the greatest challenge for automatic speech recognition (ASR) for any language. Malayalam, spoken by the people in the southernmost state of India, has a wide range of accents that reflect regional, cultural, and religious differences. Malayalam is a low-resource language; there are not many works proposed in the ASR of the language which makes this work more significant and challenging at the same time. The proposed methodology comprises three distinct stages: dataset preparation, feature engineering, and classification using machine learning and deep learning approaches. A hybrid approach is adopted for the feature engineering process. Different feature extraction techniques are considered for extracting features from the inputted accent-based speech signals for the best representation of the data. Mel frequency cepstral coefficient (MFCC), short-term Fourier transformation (STFT), and mel spectrogram techniques are adopted for the feature engineering process. In the deep learning approach, the feature set is first fed to LSTM-RNN architecture to construct the accented ASR system. The next approach is to plot the spectrograms of the speech signals and hence represent the speech data as images. The features are then extracted from these spectrograms and fed into deep convolutional network architecture to build a deep learning model. Finally, a hybrid ASR system has been constructed from all the independent models. The result of each experiment is compared against each other to find the better approach for modeling the end-to-end accented ASR (AASR).

Book Chapter

End-to-End Unified Accented Acoustic Model for Malayalam-A Low Resourced Language

Rizwana Kallooravi Thandil, K. P. Mohamed Basheer & V. K. Muneer

Speech and Language Technologies for Low-Resource Languages, volume 1802



Dr. Rizwana K.T

Dr. K.P.M Basheer

ABSTRACT

Accented Automatic Speech Recognition(AASR) takes into account the accent information that poses a great challenge to the construction of ASR. The authors in this work have constructed multiple unified acoustic models for the Malayalam language that captured the accented and accent unspecific knowledge which also worked fine with unknown accents. Malayalam is a Dravidian language rich in accents that are spoken in the Indian state of Kerala. Accented speech dataset was constructed initially comprising five different accents. The paper discusses various experiments in the feature engineering of accented speech data. The accented features were extracted using Mel Frequency Cepstral Coefficients(MFCC), Short Term Fourier Transform (STFT), Mel Spectrogram, and Tempogram approaches individually and combined approaches to find the better feature set. Different experiments were conducted to construct different Unified accented models using machine learning, deep learning, and LSTM-RNN for all individual feature set extracted. The experiment resulted in finding a novel approach to constructing accented ASR for the Malayalam language with a reduced WER than many other baseline models. The model worked fine with known accents, unknown accents, and accent unspecific standard accents.

Journal Article

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വാർത്താവതരണത്തിലെ രാഷ്ട്രീയം മലയാള വാർത്താചാനലുകൾ മുൻനിർത്തിയുള്ള അന്വേഷണം

Dr. Haskerali EC

ചെങ്ങഴി, *1/10*

Dr. Haskerali EC

ABSTRACT

സമകാലികേ ലാകെത്ത വിദ്യമായ ദൃശ്യമാധ്യമങ്ങൾ കാŕയുെട ോലാകം വിശാലമാക്കി. ഓോരാ കാŕയും അനുഭവമാകുന്ന ോലാകസാഹചര്യം വ്യത്യDZമാണ്. അച്ചടി-ú്വ്യമാധ്യമങ്ങളിൽ നിന്ന് വ്യ ത്യ DZ മാ യി ദൃ ശ്യ മാ ധ്യ മ ങ്ങ ളി ൽ ശ രീ ര ഭാ ഷ വിലയിരുത്തെപ്പñ. പറ യുന്ന വിഷയം ോപാെലത്തെന്ന പറയുന്ന ആ ളുെ ട ശ രീ ര ഭാ ഷ യും ദൃ ശ്യ മാ ധ്യ മ ങ്ങ ളി ൽ Ƃാധന്യമുള്ളതായി മാറി. ഓോരാരുത്തരുെടയും Ƃായം, ലിംഗം എന്നിവക്ക് അനുസരിച്ചാണ് ദൃശ്യമാധ്യമങ്ങളിെല/ വാർത്താ ചാനലുകളിെല പരിപാടികൾ െ പാതുെവ സ്വീകരിന്നതും തള്ളിക്ക ളയുന്നതും. ദൃശ്യമാധ്യമങ്ങളിെല Ƃതിനിധാന രാ്ŕീയം എ ന്ന തുെ കാ ണ്ട് ഈ ോ ല ഖ ന ത്തി ൽ ഉോ ദ്ദ ശി ന്ന ത് ദൃശ്യമാധ്യമങ്ങൾ വിോശഷിച്ച് വാർത്താചാനലുകളിൽ ോ ജാലി െചŽന്ന വാർത്താവതാരകരുെട വ്യ ക്തിപരവും സാമൂഹികവും രാ്ŕീയ വു മാ യ നി ല പാ ടു മാ യി ബ ന്ധെ പ്പ ട്ട താ ണ്. ദൃ ശ്യ മാ ധ്യ മ ങ്ങെള ഒന്നി Î വില യിരു Ě ക എ ന്ന ത് ഒ രു Ƃ ബ ന്ധ ത്തി ൽ ച ു രു ക്കാ ൻ ക ഴി യു ന്ന ഒ ന്ന ല്ല, എ ന്ന തുെ കാ Ċ തെ ന്ന ഇ വിെ ട മ ല യാ ള ത്തിെ ല വാർത്താചാനലുകളിെല Dzീ Ƃതിനിധാന െ ത്ത കുറിച്ചാണ് വിലയിരുത്താൻ ú്മിന്നത്. മലയാള വാർത്താ ചാനലുകളിെല അതതുകാലെത്ത Ƃവണതകളുെട സൂക്ഷ്മരാ്ŕീയം ഇവിെട പരിോശാധിŦണ്ട്. അ വതാ ര ക രുെ ട അ വത ര ണ ത്തിെ ന്റ രാ ്ŕീയം ോ പാെ ല ത്തെ ന്ന Ƃ സ ക്ത മാ ണ് ചാ ന ൽ മാോ ന ജ്ജ് മ ന്റിെ ന്റ രാ ്ŕീയ നി ല പാ ടു ക ളും. വാർത്താചാനലുകളിൽ ചർച്ച ചŽന്ന വിഷയ ങ്ങളുെട

Journal Article

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രാഷ്ട്രീയ പ്രതിനിധാനവും രാഷ്ട്രീയവും വാർത്താ ചാനലുകളിൽ

Dr. Haskerali EC

വിജ്ഞാനകൈരളി, *55/9*

Dr. Haskerali EC

ABSTRACT

അ ച്ച ടി - ú വ്യ മാ ധ്യ മ ങ്ങ ളി ൽ നി ന്ന് വ്യ ത്യ DZ മാ യി ദൃശ്യമാധ്യമങ്ങളിൽ ശരീരഭാഷ വിലയിരുത്തെപ്പñ. പറ യുന്ന വിഷയം ോ പാെലത്തെന്ന പറയുന്ന ആളുെട ശരീരഭാഷയും ദൃ ശ്യ മാ ധ്യ മ ങ്ങ ളി ൽ Бോ ധ ന്യ മു ള്ള താ യി മാ റി . ഓോ രാ രു ത്ത രുെ ട യും Бോ യം , ലിം ഗം എ ന്നി വ ക്ക് അ നു സ രി ച്ചാ ണ് ദൃ ശ്യ മാ ധ്യ മ ങ്ങ ളിെ ല / വാ ർ ത്താ ചാനലുകളിെല പരിപാടികൾ െ പാതുെവ സ്വീകരിന്നതും തള്ളിക്ക ളയുന്നതും. ദൃശ്യമാധ്യമങ്ങളിെല Бതിനിധാന രാ ǧീയം എ ന്ന തുെ കാ ണ്ട് ഈ ോ ല ഖ ന ത്തി ൽ ഉോ ദ്ദ ശി ന്ന ത് ദൃശ്യമാധ്യമങ്ങൾ വിോശഷിച്ച് വാർത്താചാനലുകളിൽ ോ ജാലി െചƷന്ന വാർത്താവതാരകരുെട വ്യ ക്തിപരവും സാമൂഹികവും രാ ǧീയ വു മാ യ നി ല പാ ടു മാ യി ബ ന്ധെ പ്പ ട്ട താ ണ് . ദൃ ശ്യ മാ ധ്യ മ ങ്ങെ ള ഒ ന്നി Î വി ല യി രു Ĕ ക എ ന്ന ത് ഒ രു Б ബ ന്ധ ത്തി ൽ ച്ചു രു ക്കാ ൻ ക ഴി യു ന്ന ഒ ന്ന ല്ല , എ ന്ന തുെ കാ Ċ തെ ന്ന ഇ വിെ ട മ ല യാ ള ത്തിെ ല വാർത്താചാനലുകളിെല Dzീ Бതിനിധാന െ ത്ത കുറിച്ചാണ് വിലയിരുത്താൻ ú്മിന്നത്. മലയാള വാർത്താ ചാനലുകളിെല അതതുകാലെത്ത Бവണതകളുെട സൂക്ഷ്മരാ ǧീയം ഇവിെട പരിോശാധിƬണ്ട്. അ വ താ ര ക രുെ ട അ വ ത ര ണ ത്തിെ ന്റ രാ ǧീയം ോ പാെ ല ത്തെ ന്ന Б സ ക്ത മാ ണ് ചാ ന ൽ മാോ ന ജ്െ മ ന്റിെ ന്റ രാ ǧീയ നി ല പാ ടു ക ളും . വാർത്താചാനലുകളിൽ ചർച്ച െ ചƷന്ന വിഷയ ങ്ങളുെട Бസക്തി, ആര് ോ മൽെക ോ നടുƬ, അവതാരകരുെട ശരീര ഭാഷ തുടങ്ങിയവ തീരുമാനിന്ന ഘടകങ്ങൾ അപ്രകിയാണ് ഈ

Journal Article

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Organizational Identification and Employee Training and among Employees in Selected Hotel in Kerala

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South India Journal of Social Sciences, Vol. XXI, No.22

Dr. Haskerali EC

ABSTRACT

This study examines the relationship between organizational identification and employee training in the hotel industry in Kerala. Organizational identification, the extent to which employees perceive themselves as part of their organization, is a crucial factor influencing job satisfaction, commitment, and performance. Employee training, on the other hand, is vital for enhancing skills, knowledge, and overall productivity. Together, these elements significantly impact organizational success, particularly in service-oriented sectors like hospitality. The research focuses on selected hotels in Kerala, a state renowned for its tourism and hospitality sector. It aims to explore how training programs influence employees' identification with their organization and the resultant effects on their performance and motivation. Employees who undergo regular, relevant training report higher levels of loyalty, engagement, and alignment with the organization's values and goals. Conversely, inadequate or poorly executed training can lead to disengagement and lower identification.This study underscores the importance of investing in tailored training programs that not only address skill gaps but also foster a sense of belonging and pride among employees. Such initiatives can enhance employee retention, customer satisfaction, and overall organizational performance. The findings are particularly relevant for hotel managers in Kerala seeking to optimize workforce effectiveness and maintain a competitive edge in the dynamic hospitality industry.

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ദൃശ്യമാധ്യമങ്ങളിലെ പ്രതിനിധാന രാഷ്ട്രീയം : മലയാളത്തിലെ വാർത്താചാനലുകൾ മുൻനിർത്തിയുള്ള അപഗ്രഥനം

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തുടി, *11/1*

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ABSTRACT

Abstract

സമകാലികേ ലാകെത്ത വിദ്യമായ ദൃശ്യമാധ്യമങ്ങൾ കാഴ്യുെട ോലാകം വിശാലമാക്കി. ഓോരാ കാഴ്യും അനുഭവമാകുന്ന ോലാകസാഹചര്യം വ്യത്യDZമാണ്. അച്ചടി-ശ്രവ്യമാധ്യമങ്ങളിൽ നിന്ന് വ്യത്യ DZ മാ യി ദൃ ശ്യ മാ ധ്യ മ ങ്ങ ളി ൽ ശ രീ ര ഭാ ഷ വിലയിരുത്തെപ്പ്ഞ്. പറ യുന്ന വിഷയം ോപാെലത്തെന്ന പറയുന്ന ആ ളുെ ട ശ രീ ര ഭാ ഷ യും ദൃ ശ്യ മാ ധ്യ മ ങ്ങ ളി ൽ Bാധന്യമുള്ളതായി മാറി. ഓോരാരുത്തരുെടയും Bായം, ലിംഗം എന്നിവക്ക് അനുസരിച്ചാണ് ദൃശ്യമാധ്യമങ്ങളിെല/ വാർത്താ ചാനലുകളിെല പരിപാടികൾ െ പാതുെവ സ്വീകരിന്നതും തള്ളിക്ക ളയുന്നതും. ദൃശ്യമാധ്യമങ്ങളിെല Bതിനിധാന രാ്ടീയം എ ന്ന തുെ കാ ണ്ട് ഈ ോ ല ഖ ന ത്തി ൽ ഉോ ദ്ദ ശി ന ത് ദൃശ്യമാധ്യമങ്ങൾ വിോശഷിച്ച് വാർത്താചാനലുകളിൽ ോ ജാലി െചയ്ന്ന വാർത്താവതാരകരുെട വ്യ ക്തിപരവും സാമൂഹികവും രാ ്ടീയ വു മാ യ നി ല പാ ടു മാ യി ബ ന്ധെ പ്പ ട്ട താ ണ് . ദൃ ശ്യ മാ ധ്യ മ ങ്ങെള ഒ ന്നി Î വി ല യി രു Ě ക എ ന്ന ത് ഒ രു Б ബ ന്ധ ത്തി ൽ ച്ചു രു ക്കാ ൻ ക ഴി യു ന്ന ഒ ന്ന ല്ല , എ ന്ന തുെ കാ Ċ തെ ന്ന ഇ വിെ ട മ ല യാ ള ത്തിെ ല വാർത്താചാനലുകളിെല Dzീ Бതിനിധാന െ ത്ത കുറിച്ചാണ് വിലയിരുത്താൻ ശ്രമിന്നത്. മലയാള വാർത്താ ചാനലുകളിെല അതതുകാലെത്ത Бവണതകളുെട സൂക്ഷ്മരാ്ടീയം ഇവിെട പരിോശാധിTണ്ട്. അ വ താ ര ക രുെ ട അ വ ത ര ണ ത്തിെ ന്റ രാ ്ടീയം ോ പാെ ല ത്തെ ന്ന Б സ ക്ത മാ ണ് ചാ ന ൽ മാോ ന ജ്െ മ ന്റിെ ന്റ രാ ്ടീയ നി ല പാ ടു ക ളും .

Journal Article

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A Hybrid Travel Recommender Model Based on Deep Level Autoencoder And Machine Learning Algorithms

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Journal of Advanced Zoology, Vol. 44, Issue. 5

Dr. V.K Muneer

Dr. K.P.M Basheer

ABSTRACT

This research investigates the application of autoencoders in processing travelogues written in the Malayalam language on Facebook. The main objective is to harness the capabilities of autoencoders to learn a compressed representation of the input data and employ it to train various machine learning models for enhanced accuracy and efficiency. The major challenge of unavailability of a benchmark dataset in the Malayalam language for the travel domain was overcome by employing NLP techniques on the unstructured, lengthy, imbalanced travelogues, applying some additional filtering methods, and the creation of an exclusive Part of Travel Tagger (POT Tagger) along with lookup dictionaries. The encoder network adeptly captures crucial features and patterns within the data. The compressed representation obtained from the encoder is then fed into the decoder, which reconstructs the original travelogues. Subsequently, the encoded model is employed to train diverse machine learning models, including logistic regression, decision tree classifier, support vector machine (SVM), random forest classifier (RFC), K-nearest neighbours (KNN), stochastic gradient descent (SGD), and multilayer perceptron (MLP). By utilizing the encoded features as inputs, these models effectively learn from the concise representation of the Malayalam travelogues. Experimental results reveal that the trained machine learning models, using the encoded features, achieve higher accuracy rates compared to conventional approaches. By leveraging capabilities of autoencoder model, we successfully learned a compressed representation of the input data, attaining an impressive validation accuracy of 95.84%. This finding highlights the potential of autoencoders to enhance the overall accuracy and efficiency of travel recommendation systems for Malayalam users on social media platforms.

Journal Article

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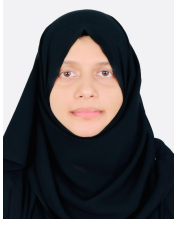
Convolutional Neural Network-Based Automatic Speech Emotion Recognition System for Malayalam

Muneer V.K, KPM Basheer, Rizwana K.T

Indian Journal of Science and Technology, Vol.16 Issue 46

Dr. V.K Muneer



Dr. Rizwana K.T

Dr. K.P.M Basheer

ABSTRACT

This research work focuses on developing a SER system using CNN and deep learning techniques for a low-resourced Dravidian Indian Language, Malayalam. The importance of speech as a powerful and natural medium of communication, capable of conveying a wide range of information about an individual's mental, behavioral, and emotional characteristics. With the increasing prevalence of human-machine interactions, the study of speech analysis has played a crucial role in bridging the gap between the physical and digital realms. Particularly, the field of emotion identification has gained popularity, as emotions are frequently expressed through speech cues. However, the scarcity of suitable datasets poses a challenge for researchers conducting experiments. Methods: In this paper, we address this challenge by employing Long Convolutional Neural Networks (CNN) to effectively recognize sentiments in voice recordings of Malayalam, a low-resource language. We manually construct datasets from audio clips of Malayalam movies and employ the Mel Frequency-Cepstral-Coefficient (MFCC) approach to extract features from the audio signals. Findings: By training, classifying, and testing our model using raw speech data from the dataset, the paper proposes a novel approach for recognizing emotions from voice signals processed in Malayalam with an average accuracy of 71%, indicating its ability to correctly predict emotions from vocal utterances in this under-resourced Language. Novelty: The novelty of this work lies in its dedication to addressing the challenges of emotion recognition in a low-resource language, the manual creation of datasets, and the successful adaptation of established techniques to a linguistic context where research is relatively scarce. These contributions collectively advance the field of speech emotion recognition and pave the way for further exploration in underrepresented languages.

Journal Article

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An intelligent travel recommender system by mining behavioral attributes from online travelogues in Malayalam – a low resourced language

Muneer V.K, K.P Mohamed Basheer

European Chemical Bulletin, Vol. 12, Issue 5A

Dr. V.K Muneer

Dr. K.P.M Basheer

ABSTRACT

Language technology involves various language processing tools and techniques which significantly contribute to Natural Language Processing (NLP). Among NLP, natural language text and speech processing are two emerging segments that require huge attention from research. Regional language processing with the advent of Artificial Intelligence brings umpteen opportunities, especially in the Indian context as many languages were spoken in different parts of the Country. A Recommender Model in the Malayalam language in Travel and tourism domain using unsupervised machine learning techniques is the intention behind this paper. Malayalam is a low-resource and highly inflected language that possesses a greater chance for ambiguity. Data sharing online platforms and social media are used as data collection sources, where the availability is still limited and challenging, which may cause scarcity of data. The works propose various methodologies to generate a custom-made scraping model from the social media written in the Malayalam Language and its preprocessing. A deep-level Travelogue Tagger has been specially constructed as part of the experiment. This paper proposes a recommender model based on traveler reviews using Collaborative filtering and Cosine similarity methods. The experiment succeeded with high precision

Journal Article

A Collaborative Destination Recommender Model in Dravidian Language by Social Media Analysis

Muneer V.K, Mohamed Basheer KP

Lecture Notes in Networks and Systems, Springer, 572

Dr. V.K Muneer

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ABSTRACT

Data generation in social media has seamlessly gone beyond imagination nowadays. It could be in varieties of types like images, videos, audio, multimedia formats, and text. The reports or text can also be in different languages. Language processing has been emerged as one of the hottest research area with advancements of artificial intelligence. Social media is considered as the largest data repository and growing time to time. This paper focuses on information retrieval methods from Facebook.com in travel and tourism domain which are written in Malayalam language, one of the prominent Dravidian languages used in the southern part of Indian state Kerala. The second topic discusses on developing an algorithm to recommend the suitable locations for individuals by fetching their travel histories, personal choices, and preferences using unsupervised machine learning techniques. A customized dataset has been generated from the largest Malayalam Facebook group in travel domain named "Sanchari" whose URL is www.facebook.com/groups/teamsanchari. Algorithm can suggest a set of suitable destinations for each user with an accuracy of 90% with help of collaborative filtering.

Book Chapter