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Phishing Detection Using Content-Based Image Classification 2022-06-01

phishing detection using content based image classification is an invaluable resource for any deep learning and cybersecurity professional and scholar trying to solve various cybersecurity tasks using new age technologies like deep learning and computer vision with various rule based phishing detection techniques at play which can be bypassed by phishers this book provides a step by step approach to solve this problem using computer vision and deep learning techniques with significant accuracy the book offers comprehensive coverage of the most essential topics including programmatically reading and manipulating image data extracting relevant features from images building statistical models using image features using state of the art deep learning models for feature extraction build a robust phishing detection tool even with less data dimensionality reduction techniques class imbalance treatment feature fusion techniques building performance metrics for multi class classification task another unique aspect of this book is it comes with a completely reproducible code base developed by the author and shared via python notebooks for quick launch and running capabilities they can be leveraged for further enhancing the provided models using new advancement in the field of computer vision and more advanced algorithms

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Content-Based Image Classification 2020-12-22

content based image classification efficient machine learning using robust feature extraction techniques is a comprehensive guide to research with invaluable image data social science research network has revealed that 65 of people are visual learners research data provided by hyerle 2000 has clearly shown 90 of information in the human brain is visual thus it is no wonder that visual information processing in the brain is 60 000 times faster than text based information 3m corporation

2001 recently we have witnessed a significant surge in conversing with images due to the popularity of social networking platforms the other reason for embracing usage of image data is the mass availability of high resolution cellphone cameras wide usage of image data in diversified application areas including medical science media sports remote sensing and so on has spurred the need for further research in optimizing archival maintenance and retrieval of appropriate image content to leverage data driven decision making this book demonstrates several techniques of image processing to represent image data in a desired format for information identification it discusses the application of machine learning and deep learning for identifying and categorizing appropriate image data helpful in designing automated decision support systems the book offers comprehensive coverage of the most essential topics including image feature extraction with novel handcrafted techniques traditional feature extraction image feature extraction with automated techniques representation learning with cnns significance of fusion based approaches in enhancing classification accuracy matlab codes for implementing the techniques use of the open access data mining tool weka for multiple tasks the book is intended for budding researchers technocrats engineering students and machine learning deep learning enthusiasts who are willing to start their computer vision journey with content based image recognition the readers will get a clear picture of the essentials for transforming the image data into valuable means for insight generation readers will learn coding techniques necessary to propose novel mechanisms and disruptive approaches the weka guide provided is beneficial for those uncomfortable coding for machine learning algorithms the weka tool assists the learner in implementing machine learning algorithms with the click of a button thus this book will be a stepping stone for your machine learning journey please visit the author's website for any further guidance at rikdas com

IBM Classification Module: Make It Work for You 2009-11-03

ibm classification module classification module version 8 6 is an advanced enterprise software platform tool designed to allow organizations to automate the classification of unstructured content by deploying the module in various areas of a business organizations can reduce or avoid manual processes associated with subjective decision making around unstructured content organizations can also streamline the ingestion of that content into their business systems in order to use the information within the business systems more effectively at the same time the organizations can safely remove irrelevant or obsolete information and therefore utilize the storage infrastructure more efficiently by reducing the human element in this process classification module ensures accuracy and consistency and enables auditing while simultaneously driving down labor costs this ibm redbooks publication explains what classification module does the key concepts to understand when working with classification module and its integration with other products and systems with this book we show you how classification module helps your organization to automate the classification of large volumes of unstructured content in a consistent and accurate manner the topics that are covered include building training and fine tuning the knowledge base creating decision plans working with classification workbench and step by step integration with other products and solutions this book is intended to educate both technical specialists and nontechnical personnel in how to make classification module work for your organizations

Multimedia Content Representation, Classification and Security 2006-09-12

this book constitutes the refereed proceedings of the international workshop on multimedia content representation classification and security mrcs 2006 the book presents 100 revised papers together with 4 invited lectures coverage includes biometric recognition multimedia content security steganography watermarking authentication classification for biometric recognition digital watermarking content analysis and representation 3d object retrieval and classification representation analysis and retrieval in cultural heritage content representation indexing and retrieval and more

Content-Based Audio Classification and Retrieval for Audiovisual Data Parsing 2013-03-09

content based audio classification and retrieval for audiovisual data parsing is an up to date overview of audio and video content analysis included is extensive treatment of audiovisual data segmentation indexing and retrieval based on multimodal media content analysis and content based management of audio data in addition to the commonly studied audio types such as speech and music the authors have included hybrid types of sounds that contain more than one kind of audio component such as speech or environmental sound with music in the background emphasis is also placed on semantic level identification and classification of environmental sounds the authors introduce a new generic audio retrieval system on top of the audio archiving schemes both theoretical analysis and implementation issues are presented the developing mpeg 7 standards are explored content based audio classification and retrieval for audiovisual data parsing will be especially useful to researchers and graduate level students designing and developing fully functional audiovisual systems for audio video content parsing of multimedia streams

IBM Watson Content Analytics: Discovering Actionable Insight from Your Content 2014-07-07

ibm watsontm content analytics content analytics version 3 0 formerly known as ibm content analytics with enterprise search icawes helps you to unlock the value of unstructured content to gain new actionable business insight and provides the enterprise search capability all in one product content analytics comes with a set of tools and a robust user interface to empower you to better identify new revenue opportunities improve customer satisfaction detect problems early and improve products services and offerings to help you gain the most benefits from your unstructured content this ibm redbooks publication provides in depth information about the features and capabilities of content analytics how the content analytics works and how to perform effective and efficient content analytics on your content to discover actionable business insights this book covers key concepts in content analytics such as facets frequency deviation correlation trend and sentimental

analysis it describes the content analytics miner and guides you on performing content analytics using views dictionary lookup and customization the book also covers using ibm content analytics studio for domain specific content analytics integrating with ibm content classification to get categories and new metadata and interfacing with ibm cognos business intelligence bi to add values in bi reporting and analysis and customizing the content analytics miner with apis in addition the book describes how to use the enterprise search capability for the discovery and retrieval of documents using various query and visual navigation techniques and customization of crawling parsing indexing and runtime search to improve search results the target audience of this book is decision makers business users and it architects and specialists who want to understand and analyze their enterprise content to improve and enhance their business operations it is also intended as a technical how to guide for use with the online ibm knowledge center for configuring and performing content analytics and enterprise search with content analytics

Data Mining the Web 2007-04-06

this book introduces the reader to methods of data mining on the web including uncovering patterns in web content classification clustering language processing structure graphs hubs metrics and usage modeling sequence analysis performance

<u>Classification - Content Regulation and Convergent Media</u> 2012

library classification trends in the 21st century traces development in and around library classification as reported in literature published in the first decade of the 21st century it reviews literature published on various aspects of library classification including modern applications of classification such as internet resource discovery automatic book classification text categorization modern manifestations of classification such as taxonomies folksonomies and ontologies and interoperable systems enabling crosswalk the book also features classification education and an exploration of relevant topics covers all aspects of library classification it is the only book that reviews literature published over a decade s time span 1999 2009 well thought chapterization which is in tune with the lis and classification curriculum

Library Classification Trends in the 21st Century 2011-11-18

mining is the application of data mining strategies to excerpt learning from web information i e web content web structure and web usage data with the emergence of the web as the predominant and converging platform for communication business and scholastic information dissemination especially in the last five years there are ever increasing research groups working on different aspects of web mining mainly in three directions these are mining of web content web structure and web usage in this context there are good number of frameworks and benchmarks related to the metrics of the websites which is certainly weighty for b2b b2c and in general in any e commerce paradigm owing to the popularity of this topic there are few

books in the market dealing more on such performance metrics and other related issues this book however omits all such routine topics and lays more emphasis on the classification and clustering aspects of the websites in order to come out with the true perception of the websites in light of its usability in nutshell mining a synergic approach resorting to classifications and clustering showcases an effective methodology for classification and clustering of web sites from their usability point of view while the clustering and classification is accomplished by using an open source tool weka the basic dataset for the selected websites has been emanated by using a free tool site analyzer as a case study several commercial websites have been analyzed the dataset preparation using site analyzer and classification through weka by embedding different algorithms is one of the unique selling points of this book this text projects a complete spectrum of web mining from its very inception through data mining and takes the reader up to the application level salient features of the book include literature review of research work in the area of web miningbusiness websites domain researched and data collected using site analyzer toolaccessibility design text multimedia and networking are assesseddatasets are filtered further by selecting vital attributes which are search engine optimized for processing using the weka attributed tooldataset with labels have been classified using j48 rbfnetwork naïvebayes and smo techniques using wekaa comparative analysis of all classifiers is reportedcommercial applications for improving website performance based on seo is given

Web Mining 2022-09-01

this important work is addressed to all researchers concerned with classification it shows the serious limits of the traditional form of analytical classification the solution it proposes the inductive population approach considers all possible cross classifications in regard to attributes of the phenomena this approach is theoretically grounded avoids the tendency to generate excessively abstract constructs and provides a clear way of linking empirical data with theoretically meaningful attributes of social systems the last section of the book applies the method to kinship structures

Classification in Social Research 1984-06-30

explains how spam works how network administrators can implement spam filters or how programmers can develop new remarkably accurate filters using language classification and machine learning original advanced

Ending Spam 2005

comprehensive coverage of the entire area of classification research on the problem of classification tends to be fragmented across such areas as pattern recognition database data mining and machine learning addressing the work of these different communities in a unified way data classification algorithms and applications explores the underlying algorithms of classification as well as applications of classification in a variety of problem domains including text multimedia social network and biological data this comprehensive book focuses on three primary aspects of data classification methods the book first

describes common techniques used for classification including probabilistic methods decision trees rule based methods instance based methods support vector machine methods and neural networks domains the book then examines specific methods used for data domains such as multimedia text time series network discrete sequence and uncertain data it also covers large data sets and data streams due to the recent importance of the big data paradigm variations the book concludes with insight on variations of the classification process it discusses ensembles rare class learning distance function learning active learning visual learning transfer learning and semi supervised learning as well as evaluation aspects of classifiers

Data Classification 2014-07-25

classification is a popular topic in typological descriptive and theoretical linguistics this volume is the first to deal specifically with the diachrony of linguistic systems of classification it comprises original papers that examine the ways in which linguistic classification systems arise change and dissipate in both natural circumstances and in circumstances of attrition the role of diffusion in such processes is explored as well as the question of what can be diffused the volume is not restricted to nominal systems of classification but also includes papers dealing with the less well known phenomenon of verbal classification languages from a wide spread of world regions are examined including africa amazonia australia eurasia oceania and mesoamerica the volume will be of interest to linguistic typologists descriptive linguists historical linguists and grammaticalization theorists

The Diachrony of Classification Systems 2018-05-14

the book presents selected methods for accelerating image retrieval and classification in large collections of images using what are referred to as hand crafted features it introduces readers to novel rapid image description methods based on local and global features as well as several techniques for comparing images developing content based image comparison retrieval and classification methods that simulate human visual perception is an arduous and complex process the book s main focus is on the application of these methods in a relational database context the methods presented are suitable for both general type and medical images offering a valuable textbook for upper level undergraduate or graduate level courses on computer science or engineering as well as a guide for computer vision researchers the book focuses on techniques that work under real world large dataset conditions

Computer Vision Methods for Fast Image Classification and Retrieval 2019-01-29

this book presents new developments in data analysis classification and multivariate statistics and in their algorithmic implementation the volume offers contributions to the theory of clustering and discrimination multidimensional data analysis

data mining and robust statistics with a special emphasis on the novel forward search approach many papers provide significant insight in a wide range of fields of application customer satisfaction and service evaluation are two examples of such emerging fields

Data Analysis, Classification and the Forward Search 2007-08-06

this three volume proceedings contains revised selected papers from the second international conference on artificial intelligence and computational intelligence aici 2011 held in taiyuan china in september 2011 the total of 265 high quality papers presented were carefully reviewed and selected from 1073 submissions the topics of part ii covered are heuristic searching methods immune computation information security information theory intelligent control intelligent image processing intelligent information fusion intelligent information retrieval intelligent signal processing knowledge representation and machine learning

Artificial Intelligence and Computational Intelligence 2011-09-12

the internet has become an indispensable tool for communications research and commerce but this report addresses the growing public concern at the internet s dark side the easy availability of hardcore pornography which people may find offensive the uploading by ordinary people of film of real fights bullying or alleged rape or the setting up of websites encouraging others to follow extreme diets or self harm or even commit suicide in particular there is increasing anxiety among parents about the use of social networking sites and chatrooms for grooming and sexual predation the committee welcomes the government commissioned report by dr tanya byron on the risks posed by the internet to children and agrees that a uk council for child internet safety should be established sites which host user generated content typically photos and videos uploaded by members of the public have taken some steps to set minimum standards for that content the committee recommends that proactive review of content should be standard practice for such sites and calls for provision of high profile facilities for reporting abuse or unwelcome behaviour directly to law enforcement and support organisations there is a distinct issue about labelling of video games to indicate the nature of their content two systems currently exist side by side the industry awards its own ratings and the british board of film classification awards classifications to a small number of games which feature content unsuitable for children the dual system is confusing and bbfc should have responsibility for rating games with content appropriate for adults or teenagers

Harmful Content on the Internet and in Video Games 2008

can the dewey decimal system meet the needs of the rapidly changing information environment moving beyond the presentation layer explores the dewey decimal system from a variety of perspectives each of which peels away a bit of the presentation layer the familiar linear notational sequence to reveal the content and context offered by the dds library

professionals from around the word examine how the content and context offered by the dds can evolve to meet the needs of the changing information environment with a special focus on the impact of the internet on current and future developments moving beyond the presentation layer examines whether the dewey decimal system is a rigid structure best suited to a physical information environment or a polymorphic one that can be adapted to meet a variety of physical and virtual needs this unique book reviews the 40 year history of the online use of classification systems the development of the relative index over 22 editions of the ddc recommendations to ensure the viability of the ddc in a time of mass digitization using dds in an environment where it hasn t been used before teaching the dds special issues related to the use of the dds in europe north america and africa and the future of online classification topics examined in moving beyond the presentation layer include using the ddc as the browsing mechanism for resource discovery classification as an online cataloging tool classification as an online end user tool browser behavior in a ddc based service the role of the dds in the ongoing hilt high level thesaurus project using the dds to organize resources localization and interoperability in knowledge organization mapping terminologies to classification systems the deweybrowser and much more moving beyond the presentation layer is an essential professional resource for librarians information scientists computer scientists and metadata and services specialists

Moving Beyond the Presentation Layer 2013-05-13

this book presents selected research papers on current developments in the fields of soft computing and signal processing from the third international conference on soft computing and signal processing icscsp 2020 the book covers topics such as soft sets rough sets fuzzy logic neural networks genetic algorithms and machine learning and discusses various aspects of these topics e g technological considerations product implementation and application issues

Soft Computing and Signal Processing 2021-05-20

this book presents how multimedia data analysis information retrieval and indexing are central for comprehensive personalized adaptive quality care and the prolongation of independent living at home with sophisticated technologies in monitoring diagnosis and treatment multimodal data plays an increasingly central role in healthcare experts in computer vision image processing medical imaging biomedical engineering medical informatics physical education and motor control visual learning nursing and human sciences information retrieval content based image retrieval ehealth information fusion multimedia communications and human computer interaction come together to provide a thorough overview of multimedia analysis in medicine and daily life

Health Monitoring and Personalized Feedback using Multimedia Data

2015-07-01

Python[Keras]]]]]]]]]]]]]2018-05-28

this book explores internet applications in which a crucial role is played by classification such as spam filtering recommender systems malware detection intrusion detection and sentiment analysis it explains how such classification problems can be solved using various statistical and machine learning methods including k nearest neighbours bayesian classifiers the logit method discriminant analysis several kinds of artificial neural networks support vector machines classification trees and other kinds of rule based methods as well as random forests and other kinds of classifier ensembles the book covers a wide range of available classification methods and their variants not only those that have already been used in the considered kinds of applications but also those that have the potential to be used in them in the future the book is a valuable resource for post graduate students and professionals alike

Classification Methods for Internet Applications 2020-01-29

soil genesis and classification sixth edition builds on the success of the previous editions to present an unparalleled resource on soil formation and classification featuring a color plate section containing multiple soil profiles this text also includes information on new classification systems and emerging technologies and databases with updated references throughout covering the diverse needs of both the academic and professional communities this classic text will be a must have reference for all those in soil science and related fields

Classification of Recycled Sands and Their Applications as Aggregates for Concrete and Bituminous Mixtures 2006

earlier ed 3rd published by oxford university press 2006

Soil Genesis and Classification 2011-09-27

a new edition of this best selling textbook reintroduces the topic of library cataloging from a fresh modern perspective not many books merit an eleventh edition but this popular text does newly updated introduction to cataloging and classification provides an introduction to descriptive cataloging based on contemporary standards explaining the basic tenets to readers without previous experience as well as to those who merely want a better understanding of the process as it exists today the text opens with the foundations of cataloging then moves to specific details and subject matter such as functional requirements for bibliographic records frbr functional requirements for authority data frad the international cataloging principles icp and rda unlike other texts the book doesn t presume a close familiarity with the marc bibliographic or authorities formats ala s anglo american cataloging rules 2nd edition revised aacr2r or the international standard bibliographic description isbd subject access to library materials is covered in sufficient depth to make the reader comfortable with the principles and practices of subject cataloging and classification in addition the book introduces marc bibframe and other approaches used to communicate and display bibliographic data discussions of formatting presentation and administrative issues complete the book questions useful for review and study appear at the end of each chapter

International Trademark Classification 2012-03-08

this updated compendium provides a methodical introduction with a coherent and unified repository of ensemble methods theories trends challenges and applications more than a third of this edition comprised of new materials highlighting descriptions of the classic methods and extensions and novel approaches that have recently been introduced along with algorithmic descriptions of each method the settings in which each method is applicable and the consequences and tradeoffs incurred by using the method is succinctly featured r code for implementation of the algorithm is also emphasized the unique volume provides researchers students and practitioners in industry with a comprehensive concise and convenient resource on ensemble learning methods

Introduction to Cataloging and Classification 2015-09-29

this book constitutes the refereed proceedings of the 33rd annual european conference on information retrieval research ecir 2011 held in dublin ireland in april 2010 the 45 revised full papers presented together with 24 poster papers 17 short papers and 6 tool demonstrations were carefully reviewed and selected from 223 full research paper submissions and 64 poster demo submissions the papers are organized in topical sections on text categorization recommender systems ir ir evaluation ir for social networks cross language ir ir theory multimedia ir ir applications interactive ir and question answering nlp

Ensemble Learning: Pattern Classification Using Ensemble Methods (Second Edition) 2019-02-27

data has increased due to the growing use of web applications and communication devices it is necessary to develop new techniques of managing data in order to ensure adequate usage modern technologies for big data classification and clustering is an essential reference source for the latest scholarly research on handling large data sets with conventional data mining and provide information about the new technologies developed for the management of large data featuring coverage on a broad range of topics such as text and web data analytics risk analysis and opinion mining this publication is ideally designed for professionals researchers and students seeking current research on various concepts of big data analytics

Improving Personnel Selection Through New Approaches to Classification 1981

the way of expressing the opinions of an individual have changed over time with the evolvement of the era of internet people now have started expressing their views and feelings online with the help of blog posts various online platforms websites media and many other ways the various social networking sites such as facebook twitter and so on have been available today for various users to access them and express their emotions which can be shared with their friends the various other forums are present online through which the promotions are made with the help of media services due to this various consumers get attracted and help various organizations huge volume of data that involves sentiments is available within the tweets blogs notices reviews etc which is mainly achieved through the social media in addition social media gives a chance to businesses by giving a platform to associate with their customers for promoting people for the most part rely on user produced content over online all things considered for decision making in case for example there is a need of buying products or accessing services first of all the user checks the reviews online and then takes the decision whether the product can be utilized or not in comparison to the normal user the amount of content generated by the users online is huge this makes it difficult to analyze such large amount of data thus to handle such amount of data there is a need to generate automatic systems which can help in creating numerous sentiment analysis methods

<u>Code of Federal Regulations</u> 2006

extracting content from text continues to be an important research problem for information processing and management approaches to capture the semantics of text based document collections may be based on bayesian models probability theory vector space models statistical models or even graph theory as the volume of digitized textual media continues to grow so does the need for designing robust scalable indexing and search strategies software to meet a variety of user needs knowledge extraction or creation from text requires systematic yet reliable processing that can be codified and adapted for changing needs and environments this book will draw upon experts in both academia and industry to recommend practical approaches to the purification indexing and mining of textual information it will address document identification clustering and categorizing documents cleaning text and visualizing semantic models of text

Advances in Information Retrieval 2011-04-12

this book covers computationally innovative methods and technologies including data collection and elicitation data processing data analysis data visualizations and data presentation it explores how digital humanists have harnessed the hypersociality and social technologies benefited from the open source sharing not only of data but of code and made technological capabilities a critical part of humanities work chapters are written by researchers from around the world bringing perspectives from diverse fields and subject areas the respective authors describe their work their research and their learning topics include semantic web for cultural heritage valorization machine learning for parody detection by classification psychological text analysis crowdsourcing imagery coding in natural disasters and creating inheritable digital codebooks designed for researchers and academics this book is suitable for those interested in methodologies and analytics that can be applied in literature history philosophy linguistics and related disciplines professionals such as librarians archivists and historians will also find the content informative and instructive

Modern Technologies for Big Data Classification and Clustering 2017-07-12

this book highlights recent research on intelligent systems and nature inspired computing it presents 130 selected papers from the 19th international conference on intelligent systems design and applications isda 2020 which was held online the isda is a premier conference in the field of computational intelligence and the latest installment brought together researchers engineers and practitioners whose work involves intelligent systems and their applications in industry including contributions by authors from 40 countries the book offers a valuable reference guide for all researchers students and practitioners in the fields of computer science and engineering

<u>A Classification Technique for Sentiment Analysis in Data Mining</u> 2017-09-13

this book includes original unpublished contributions presented at the international conference on data analytics and management icdam 2023 held at london metropolitan university london uk during june 2023 the book covers the topics in data analytics data management big data computational intelligence and communication networks the book presents innovative work by leading academics researchers and experts from industry which is useful for young researchers and students the book is divided into four volumes

Survey of Text Mining 2013-03-14

in this book implement deep learning based image classification on classifying monkey species recognizing rock paper and scissor and classify airplane car and ship using tensorflow keras scikit learn opency pandas numpy and other libraries in chapter 1 you will learn how to use tensorflow keras scikit learn opency pandas numpy and other libraries to perform how to classify monkey species using 10 monkey species dataset provided by kaggle kaggle com slothkong 10 monkey species download here s an overview of the steps involved in classifying monkey species using the 10 monkey species dataset dataset preparation download the 10 monkey species dataset from kaggle and extract the files the dataset should consist of separate folders for each monkey species with corresponding images load and preprocess images use libraries such as opency to load the images from the dataset resize the images to a consistent size e g 224x224 pixels to ensure uniformity split the dataset divide the dataset into training and testing sets typically an 80 20 or 70 30 split is used where the larger portion is used for training and the smaller portion for testing the model s performance label encoding encode the categorical labels monkey species into numeric form this step is necessary to train a machine learning model as most algorithms expect numerical inputs feature extraction extract meaningful features from the images using techniques like deep learning or image processing algorithms this step helps in representing the images in a format that the machine learning model can understand model training use libraries like tensorflow and keras to train a machine learning model on the preprocessed data choose an appropriate model architecture in this case mobilenetv2 model evaluation evaluate the trained model on the testing set to assess its performance metrics like accuracy precision recall and f1 score can be used to evaluate the model s classification performance predictions use the trained model to make predictions on new unseen images pass the images through the trained model and obtain the predicted labels for the monkey species in chapter 2 you will learn how to use tensorflow keras scikit learn opency pandas numpy and other libraries to perform how to recognize rock paper and scissor using dataset provided by kaggle kaggle com sanikamal rock paper scissors dataset download here s the outline of the steps step 1 dataset preparation download the rock paper scissors dataset from kaggle by visiting the provided link and clicking on the download button save the dataset to a local directory on your machine extract the downloaded dataset to a suitable location this will create a folder containing the images for rock paper and scissors step 2 data preprocessing import the required libraries tensorflow keras numpy opency and pandas load the dataset using opency iterate through the image files in the dataset directory and use opency s cv2 imread function to load each image you can specify the image s file extension e g png and directory path preprocess the images resize the loaded images to a consistent size using opency s cv2 resize function you may choose a specific width and height suitable for your model prepare the labels create a list or array to store the corresponding labels for each image rock paper or scissors this can be done based on the file naming convention or by mapping images to their respective labels using a dictionary step 3 model training create a convolutional neural network cnn model using keras define a cnn architecture using keras sequential model or functional api this typically consists of convolutional layers pooling layers and dense layers compile the model specify the loss function e g categorical cross entropy

and optimizer e g adam using keras compile function you can also define additional metrics to evaluate the model s performance train the model use keras fit function to train the model on the preprocessed dataset specify the training data labels batch size number of epochs and validation data if available this will optimize the model s weights based on the provided dataset save the trained model once the model training is complete you can save the trained model to disk using keras save or save weights function this allows you to load the model later for predictions or further training step 4 model evaluation evaluate the trained model use keras evaluate function to assess the model s performance on a separate testing dataset provide the testing data and labels to calculate metrics such as accuracy precision recall and f1 score this will help you understand how well the model generalizes to new unseen data analyze the model s performance interpret the evaluation metrics and analyze any potential areas of improvement you can also visualize the confusion matrix or classification report to gain more insights into the model s predictions step 5 prediction use the trained model for predictions load the saved model using keras load model function then pass new unseen images through the model to obtain predictions preprocess these images in the same way as the training images resize normalize etc visualize and interpret predictions display the predicted labels alongside the corresponding images to see how well the model performs you can use libraries like matplotlib or opency to show the images and their predicted labels additionally you can calculate the accuracy of the model s predictions on the new dataset in chapter 3 you will learn how to use tensorflow keras scikit learn opency pandas numpy and other libraries to perform how to classify airplane car and ship using multiclass image dataset airplane car ship dataset provided by kaggle kaggle com abtabm multiclassimagedatasetairplanecar here are the outline steps import the required libraries tensorflow keras scikit learn opency pandas numpy load and preprocess the dataset read the images from the dataset folder resize the images to a fixed size store the images and corresponding labels split the dataset into training and testing sets split the data and labels into training and testing sets using a specified ratio encode the labels convert the categorical labels into numerical format perform one hot encoding on the labels build mobilenetv2 model using keras create a sequential model add convolutional layers with activation functions add pooling layers for downsampling flatten the output and add dense layers set the output layer with softmax activation compile and train the model compile the model with an optimizer and loss function train the model using the training data and labels specify the number of epochs and batch size evaluate the model evaluate the trained model using the testing data and labels calculate the accuracy of the model make predictions on new images load and preprocess a new image use the trained model to predict the label of the new image convert the predicted label from numerical format to categorical

Data Analytics in Digital Humanities 2017-05-03

the 6th ftra international conference on computer science and its applications csa 14 will be held in guam usa dec 17 19 2014 csa 14 presents a comprehensive conference focused on the various aspects of advances in engineering systems in computer science and applications including ubiquitous computing u health care system big data ui ux for human centric computing computing service bioinformatics and bio inspired computing and will show recent advances on various aspects of computing technology ubiquitous computing services and its application

Intelligent Systems Design and Applications 2021-06-02

Proceedings of Data Analytics and Management 2024-02-06

Step by Step Tutorial IMAGE CLASSIFICATION Using Scikit-Learn, Keras, And TensorFlow with PYTHON GUI 2023-06-21

<u>Computer Science and its Applications</u> 2014-11-29

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