

## Pixl Predicted Paper

Coarse resolution imagery, such as that produced by the MODIS instrument, poses the challenge of estimating sub-pixel proportions of different land cover types. This problem is difficult because of the variety and variability of vegetation within individual pixels. This thesis describes and compares two existing algorithms for estimating sub-pixel fractional land cover and introduces a new algorithm that estimates sub-pixel cover fractions more accurately than those currently used. The two existing algorithms are the linear spectral mixture model, which has previously been applied to coarse-resolution imagery, and artificial neural networks, which have been very successful across a wide range of tasks. The paper introduces a new regression tree algorithm that directly estimates land cover fractions. Our implementations of these methods enforce the requirement that the predicted sub-pixel fractions sum to 1. In addition, we employed internal cross-validation methods to calibrate the design parameters of the algorithms to optimize their performance separately on each data set. The methods were tested on real and simulated data from three different studies. The results show that the linear mixture model is significantly less accurate in terms of mean squared error compared to the non-linear neural network and regression tree methods. In addition, we applied an ensemble learning method, bagging, to construct multiple classifiers and combine their predictions by voting. The experiments demonstrate that the regression tree algorithm combined with bagging gives the most accurate predictions. This method proved efficient and easy to implement.

De meisjes en vrouwen in Afghanistan worden gediscrimineerd, vernederd en beschouwd als last voor de gemeenschap. Veel ouders vermommen een van hun dochters als jongen om betere kansen voor zichzelf en hun familie te creëren. Zo kunnen de meisjes wel een opleiding volgen, geld verdienen en de maatschappelijke positie van de familie verstevigen. Maar zodra ze in de puberteit komen wordt er van ze verwacht dat ze veranderen in gehoorzame, huwbare vrouwen. Voor veel meisjes is die ommekeer niet eenvoudig. De vrijheid en het respect die ze genoten staan in schril contrast met wat de toekomst hun biedt. Jenny Nordberg vertelt de verhalen van deze meisjes en vrouwen, onder wie de vijfendertigjarige Shukria, moeder van drie, die tot een huwelijk is gedwongen, en de vijftienjarige Zahra die weigert om vrouw te worden: als alles je wordt afgenomen, waarom zou je dan een vrouw willen zijn?

This book collects articles presented at the 13th International Conference on Information Technology- New Generations, April, 2016, in Las Vegas, NV USA. It includes over 100 chapters on critical areas of IT including Web Technology, Communications, Security, and Data Mining.

Gekleed in een safaripak en voorzien van een muskietennet reist Casey Michaels af naar A'Qaban voor een sollicitatiegesprek met sjeik Rafik al Rafar. Ze verwacht een barre kamelenrit door de woestijn, gevolgd door een ontmoeting met een man in een lang gewaad. Maar de sjeik blijkt strak in het pak te zitten, en hij leidt haar rechtstreeks naar zijn moderne kantoor. Daar staat ze dan met een onflatterende flaphoed op haar hoofd! En ze krijgt het bijzonder warm van de zwoele blik waarmee de knappe woestijnprins haar opneemt. Had ze haar rugzak nu maar volgestouwd met sexy lingerie, in plaats van die veel te grote zandwerende onderbroeken...

Moving object detection is of significant interest in temporal image analysis since it is a first step in many object identification and tracking applications. A key component in almost all moving object detection algorithms is a pixel-level classifier, where each pixel is predicted to be either part of a moving object or part of the background. In this paper we investigate a change detection approach to the pixel-level classification problem and evaluate its impact on moving object detection. The change detection approach that we investigate was previously applied to multi-and hyper-spectral datasets, where images were typically taken several days, or months apart. In this paper, we apply the

approach to low-frame rate (1-2 frames per second) video datasets.

Reversible data hiding (RDH) technique, which is mainly used in some important situations that do not allow any distortion, such as military remote sensing imagery, diagnostic medical imaging, fine art protection and any media involving legal issues. This system can recover the original image completely after extracting the hidden information. In the RDH system, an accurate prediction method can generate more centralized histogram, which would minimize the shifting and thus reduce distortion. In this paper, we propose a new RDH system that consists of four prediction methods. All these methods first divide the pixel values into groups and then take one of the groups as the missing pixels and generate the preparing predicted image. The first and the second methods are the prediction methods based on image inpainting TV and Fast, which is used to repair the preparing predicted image by the existing image inpainting method TV or Fast and finally obtain the predicted image. The third method is based on the least squares prediction (LSP), which we set a range of data collection with the prediction pixel as the center and use the cross-type collection method to collect the data, and finally make prediction with the least squares prediction method. The fourth method is a prediction method based on multi-directional gradient and mode selection (MGMS), which generates roughly predicted image by the average method, and then use this image to calculate its gradient information of four directions and the weight of eight neighboring pixels. Next, the edge image is generated by using the edge detection method, and then the edge-direction image is calculated. Finally, the edge direction image is used to select the most appropriate prediction mode. In the embedding stage, this paper proposes an embedding method based on nonlinear regression analysis and embedding selection. Firstly, natural images are collected to estimate multiple quadratic functions by using nonlinear regression analysis. The embedding positions are classified into embedding and non-embedding regions by using the quadratic functions, to reduce unnecessary shifting and thus increase the quality of the embedded image. Finally, this paper also proposes an automatic embedding range decision method, which can obtain the optimal embedding range before embedding the data. This method uses the size of the local standard deviation for sorting and embeds the smaller local standard deviation first to increase the quality of the embedded image. To evaluate the effectiveness of the proposed reversible hiding technique, this paper compares it with the existing methods by using different images. The results show that the proposed scheme can embed more data with less distortion.

Spatial or temporal serial remote sensing images are taking more and more important roles in monitoring, utilizing and analyzing resources. However, a large number of remote sensing images are contaminated by clouds, which cause missing information and, moreover, result in the difficulty of extracting complete information. Traditional resolutions to this problem have limits such as low resolution, data lost or large computational load. In this paper, a method that utilizes Artificial Neural Networks (ANN) interpolator is implemented, which may avoid those problems stated above. For the sake of assessing the performance of ANN interpolator, a small area of forest, mountain, valley and road is clipped off from an ETM+ file. Several "cloud" areas will be manually created to test the ANN model. One band of the image is transformed into ASCII files. In the next step, a K Nearest Neighbor (KNN) searching algorithm is applied on these ASCII files, and k neighbors was found for every pixel in this area. Then an ANN model is built. For each pixel that was contaminated by cloud, its neighbors are used as input information, and the output for this pixel is its predicted DN value. Finally, the output will be restored to a raster file. Root-Mean-Square-Error, Quantile-Quantile Plot, and Error Distribution Map are adopted to assess the performance of this ANN interpolator. Finally, the thesis concludes that activate functions and neighborhood search do not cause significant difference in the output of ANN interpolators, and the interpolation results are globally good but largely biased regionally.

This book presents the proceedings of the 24th European Conference on Artificial Intelligence (ECAI 2020), held in Santiago de Compostela, Spain, from 29 August to 8 September 2020. The conference was postponed from June, and much of it conducted online due to the COVID-19 restrictions. The conference is one of the principal occasions for researchers and practitioners of AI to meet and discuss the latest trends and challenges in all fields of AI and to demonstrate innovative applications and uses of advanced AI technology. The book also includes the proceedings of the 10th Conference on Prestigious Applications of Artificial Intelligence (PAIS 2020) held at the same time. A record number of more than 1,700 submissions was received for ECAI 2020, of which 1,443 were reviewed. Of these, 361 full-papers and 36 highlight papers were accepted (an acceptance rate of 25% for full-papers and 45% for highlight papers). The book is divided into three sections: ECAI full papers; ECAI highlight papers; and PAIS papers. The topics of these papers cover all aspects of AI, including Agent-based and Multi-agent Systems; Computational Intelligence; Constraints and Satisfiability; Games and Virtual Environments; Heuristic Search; Human Aspects in AI; Information Retrieval and Filtering; Knowledge Representation and Reasoning; Machine Learning; Multidisciplinary Topics and Applications; Natural Language Processing; Planning and Scheduling; Robotics; Safe, Explainable, and Trustworthy AI; Semantic Technologies; Uncertainty in AI; and Vision. The book will be of interest to all those whose work involves the use of AI technology.

De tirannieke Nurse Ratched regeert haar afdeling in de psychiatrische inrichting van Oregon State met beklemmende discipline. De patiënten houden zich gedeisd door geestdodende medicatie en de dreiging van elektroshocktherapie. Haar strikte regime wordt verstoord door de komst van McMurphy, een levenslustige crimineel die doet alsof hij gek geworden is om kans te maken op een makkelijk leventje in een inrichting. Wanneer McMurphy ziet hoe de patiënten hun dagen hier doorbrengen en hoe hun levens verpieteren, besluit hij in opstand te komen. Hij begint opmerkingen te maken over het figuur van de Big Nurse, en introduceert kaartspellen bij zijn medepatiënten. Hij organiseert een ongeoorloofd uitje en weet zelfs twee prostituees de afdeling binnen te smokkelen. Hij betaalt daar niet alleen zelf de prijs voor, maar ziet ook hoe zijn vrienden meer en meer beginnen te lijden nu ze in aanraking komen met de buitenwereld. In de soms onderhuidse, soms uitgesproken of zelfs fysieke strijd tussen McMurphy en Ratched vervagen de grenzen tussen goed en kwaad, mentaal gezond of gek, leven en dood. *One Flew Over the Cuckoo's Nest* is een van de grootste, meest indrukwekkende romans van de twintigste eeuw. Een ode aan het leven en de vrijheid.

This book features papers presented at IIH-MSP 2018, the 14th International Conference on Intelligent Information Hiding and Multimedia Signal Processing. The scope of IIH-MSP included information hiding and security, multimedia signal processing and networking, and bio-inspired multimedia technologies and systems. The book discusses subjects

related to massive image/video compression and transmission for emerging networks, advances in speech and language processing, recent advances in information hiding and signal processing for audio and speech signals, intelligent distribution systems and applications, recent advances in security and privacy for multimodal network environments, multimedia signal processing, and machine learning. Presenting the latest research outcomes and findings, it is suitable for researchers and students who are interested in the corresponding fields. IIH-MSP 2018 was held in Sendai, Japan on 26–28 November 2018. It was hosted by Tohoku University and was co-sponsored by the Fujian University of Technology in China, the Taiwan Association for Web Intelligence Consortium in Taiwan, and the Swinburne University of Technology in Australia, as well as the Fujian Provincial Key Laboratory of Big Data Mining and Applications (Fujian University of Technology) and the Harbin Institute of Technology Shenzhen Graduate School in China.

Ann Macintosh Napier University, UK The papers in this volume are the refereed application papers presented at ES2001, the Twenty-first SGES International Conference on Knowledge Based Systems and Applied Artificial Intelligence, held in Cambridge in December 2001. The scope of the application papers has expanded over recent years to cover not just innovative applications using traditional knowledge based systems, but also to include applications demonstrating the whole range of AI technologies. These papers continue to illustrate the maturity of AI as a commercially viable technology to solve real world problems. The papers were subject to refereeing by at least two expert referees. All papers that were in any way controversial were discussed in depth by the Application Programme Committee. For the ES2001 Application Stream, a paper is acceptable even if it describes a system that has not yet been installed, provided the application is original and the paper discusses the kind of things that would help others needing to solve a similar problem. Papers have been selected to highlight critical areas of success - and failure - and to present the benefits and lessons learnt to other developers. This volume contains sixteen papers describing deployed or emerging applications in a range of diverse areas: business and commerce, engineering, manufacturing, knowledge and information management, and music.

Niet zo heel lang geleden was Eragon nog een arme boerenjongen en zijn draak Saphira slechts een blauwe steen in het bos. Nu rust het lot van een hele beschaving op hun schouders. Ze zullen het tegen Galbatorix, de boosaardige koning, moeten opnemen. Er zal geen tweede kans komen. De Ridder en zijn draak hebben al meer bereikt dan iedereen had durven hopen, maar kunnen ze Galbatorix omverwerpen en het recht in Alagaësia doen zegevieren? En zo ja, tegen welke prijs?

Information Processing in Medical Imaging 26th International Conference, IPMI 2019, Hong Kong, China, June 2–7, 2019, Proceedings Springer

Prachtige hervertelling van klassieker door Imme Dros. Vanaf 10 jaar. Mary staarde naar het roestige ding in haar handen. Een sleutel. 'Misschien lag hij daar wel tien jaar begraven,' fluisterde ze. 'Misschien is hij wel van de tuin!' Ze mocht overal komen, hadden ze gezegd, alleen niet in die ene kamer, en in die ene tuin. Maar Mary hoort geluiden, in de verboden kamer. Inbeelding, zeggen ze. En: verboden! Over de muur van de geheime tuin ziet Mary steeds dezelfde vogel vliegen. Mary houdt niet van verboden en ook niet van geheimen... Kan zij de geheimen ontrafelen? Tonke Dragt over De geheime tuin: 'Verrukkelijk boek – mijn lievelingsboek. De geheime tuin heeft alles: het is geheimzinnig, spannend en betoverend mooi! Een boek dat ieder kind gelezen moet hebben.' The Secret Garden van Frances Hodgson Burnett verscheen voor het eerst in 1911. Meer dan honderd jaar later is het verhaal over het stugge, egoïstische weesmeisje Mary dat een verboden, verwaarloosde tuin weer tot bloei weet te brengen – en daarmee zichzelf – nog altijd betoverend voor jong en oud. Prachtige vertelling waarin de parallellen tussen natuur, vriendschap en verbeelding onopvallend lijken, maar magisch zijn.

This book constitutes the proceedings of the 26th International Conference on Information Processing in Medical Imaging, IPMI 2019, held at the Hong Kong University of Science and Technology, Hong Kong, China, in June 2019. The 69 full papers presented in this volume were carefully reviewed and selected from 229 submissions. They were organized in topical sections on deep learning and segmentation; classification and inference; reconstruction; disease modeling; shape, registration; learning motion; functional imaging; and white matter imaging. The book also includes a number of post papers.

This paper presents a graphics renderer which incorporates new partitioning methodologies of memory and work for efficient execution on a parallel computer. The Task Adaptive domain decomposition scheme is an image space method involving dynamic partitioning of rectangular pixel area tasks. The author shows that this method requires little overhead, allows coherence within a parallel context, handles worst case scenarios effectively, and executes efficiently with little processor synchronization necessary. Previous research in the area of memory and work decompositions for graphics rendering has been primarily limited to simulation studies and little practical experience. The algorithm presented here has been implemented on a scalable distributed memory multiprocessor and tested on a variety of input scenes. The author presents a theoretical and practical analysis in order to contrast its predicted and actual success. The implementation analysis indicates that load imbalance is the major cause of performance degradation at the higher processor counts. Even so, on a variety of test scenes, an average rendering speedup of 79 was achieved utilizing 96 processors on the BBN TC2000 multiprocessor with a processor efficiency range of 66% to 94%.

The relationship between story and game, and related questions of electronic writing and play, examined through a



series of discussions among new media creators and theorists. Electronic games have established a huge international market, significantly outselling non-digital games; people spend more money on The Sims than on "Monopoly" or even on "Magic: the Gathering." Yet it is widely believed that the market for electronic literature--predicted by some to be the future of the written word--languishes. Even bestselling author Stephen King achieved disappointing results with his online publication of "Riding the Bullet" and "The Plant." Isn't it possible, though, that many hugely successful computer games--those that depend on or at least utilize storytelling conventions of narrative, character, and theme--can be seen as examples of electronic literature? And isn't it likely that the truly significant new forms of electronic literature will prove to be (like games) so deeply interactive and procedural that it would be impossible to present them as paper-like "e-books"? The editors of First Person have gathered a remarkably diverse group of new media theorists and practitioners to consider the relationship between "story" and "game," as well as the new kinds of artistic creation (literary, performative, playful) that have become possible in the digital environment. This landmark collection is organized as a series of discussions among creators and theorists; each section includes three presentations, with each presentation followed by two responses. Topics considered range from "Cyberdrama" to "Ludology" (the study of games), to "The Pixel/The Line" to "Beyond Chat." The conversational structure inspired contributors to revise, update, and expand their presentations as they prepared them for the book, and the panel discussions have overflowed into a First Person web site (created in conjunction with the online journal Electronic Book Review).

For Esperanza, a young girl growing up in the Hispanic quarter of Chicago, life is an endless landscape of concrete and run-down tenements, and she tries to rise above the hopelessness

The Solar-B satellite was launched in the morning of 23 September 2006 (06:36 Japan time) by the Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (ISAS/JAXA), and was renamed to Hinode ('sunrise' in Japanese). Hinode carries three instruments; the X-ray telescope (XRT), the EUV imaging spectrometer (EIS), and the solar optical telescope (SOT). These instruments were developed by ISAS/JAXA in cooperation with the National Astronomical Observatory of Japan as domestic partner, and NASA and the Science and Technology Facilities Council (UK) as international partners. ESA and Norwegian Space Center have been providing a downlink station. All the data taken with Hinode are open to everyone since May 2007. This volume combines the first set of instrumental papers of the Hinode mission (the mission overview, EIS, XRT, and the database system) published in volume 243, Number 1 (June 2007), and the second set of papers (four papers on SOT and one paper on XRT) published in Volume 249, Number 2 (June 2008). Another SOT paper cited as Tarbell et al. (2008) in these papers will appear later in Solar Physics.

The details of the fabrication and results of laboratory testing of the Ultra High Resolution Framing Camera containing

onchip forward image motion compensation were presented to the SPIE at Airborne Reconnaissance XXII in 1998. Three airborne flight tests of the Camera system have since been conducted with excellent results. This paper summarizes predicted performance for the Camera and presents some of the flight test imagery and data.

Aflatoxins affect the health of close to 70 percent of the population of the world through contaminated food. Smallholder farmers in developing countries can be especially hard hit, since they consume a high proportion of what they produce without a clear knowledge of the level of contamination their harvest might have. Climate change can cause dramatic shifts in the level of contamination and the frequency of that high levels of aflatoxins are found in harvested foods, particularly maize and groundnuts. In this paper, we introduce new software that is able to estimate potential field concentrations of aflatoxins based on weather, and then apply the software to the question of how projected changes in climate will affect the occurrence of aflatoxins in six countries. The analysis is done at a very fine geographic resolution so that problem areas within countries are also identified. For rainfed groundnuts, baseline period calculations using the module show fairly high frequency of expected contamination levels above 4 ppb for Burkina Faso and Niger (39 and 56 percent), while Nigeria has a more modest estimate of 14 percent. However, factoring in climate change, we find great variation in projections. One of the five climate models used in the analysis projects a much wetter region which serves to drive down aflatoxin concentrations steeply. However, others have lower or even negative projections for changes in rainfall and coupled with temperature increases (large in some climate models), three of the five climate models project rising aflatoxin concentrations. The frequency of projected contamination levels above 4 ppb in rainfed maize are high in the baseline for Niger, at 43 percent, though Niger grows little maize. Burkina Faso, Nigeria, Guatemala, and Honduras all have more modest projections in the baseline (8, 9, 4, 10), while Nepal has just a trace above 0. Aflatoxin concentrations are projected to rise with climate change by all 5 models for Nepal, Guatemala, Honduras, and Nigeria, but only rise for 3 models for Niger and 4 of the 5 models for Burkina Faso. We use regressions with weather variables on projected aflatoxin concentrations levels above 4 ppb to better understand critical levels of rainfall and temperature that could trigger local crises with aflatoxins in on-farm consumption of harvested foods. At the end of the paper, we examine why aflatoxin concentrations in Nepal as reported by the modeling results appear low despite aflatoxins being a significant issue for the country.

Standaardwerk van de grondlegger van de homeopathie (1755-1843).

WORKSHOP 1: In this workshop, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to implement deep learning on recognizing traffic signs using GTSRB dataset, detecting brain tumor using Brain Image MRI dataset, classifying gender, and recognizing facial expression using FER2013 dataset In Chapter 1, you will learn to create GUI applications to display line graph

using PyQt. You will also learn how to display image and its histogram. In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, Pandas, NumPy and other libraries to perform prediction on handwritten digits using MNIST dataset with PyQt. You will build a GUI application for this purpose. In Chapter 3, you will learn how to perform recognizing traffic signs using GTSRB dataset from Kaggle. There are several different types of traffic signs like speed limits, no entry, traffic signals, turn left or right, children crossing, no passing of heavy vehicles, etc. Traffic signs classification is the process of identifying which class a traffic sign belongs to. In this Python project, you will build a deep neural network model that can classify traffic signs in image into different categories. With this model, you will be able to read and understand traffic signs which are a very important task for all autonomous vehicles. You will build a GUI application for this purpose. In Chapter 4, you will learn how to perform detecting brain tumor using Brain Image MRI dataset provided by Kaggle (<https://www.kaggle.com/navoneel/brain-mri-images-for-brain-tumor-detection>) using CNN model. You will build a GUI application for this purpose. In Chapter 5, you will learn how to perform classifying gender using dataset provided by Kaggle (<https://www.kaggle.com/cashutosh/gender-classification-dataset>) using MobileNetV2 and CNN models. You will build a GUI application for this purpose. In Chapter 6, you will learn how to perform recognizing facial expression using FER2013 dataset provided by Kaggle (<https://www.kaggle.com/nicolejyt/facialexpressionrecognition>) using CNN model. You will also build a GUI application for this purpose.

**WORKSHOP 2:** In this workshop, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to implement deep learning on classifying fruits, classifying cats/dogs, detecting furnitures, and classifying fashion. In Chapter 1, you will learn to create GUI applications to display line graph using PyQt. You will also learn how to display image and its histogram. Then, you will learn how to use OpenCV, NumPy, and other libraries to perform feature extraction with Python GUI (PyQt). The feature detection techniques used in this chapter are Harris Corner Detection, Shi-Tomasi Corner Detector, and Scale-Invariant Feature Transform (SIFT). In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform classifying fruits using Fruits 360 dataset provided by Kaggle (<https://www.kaggle.com/moltean/fruits/code>) using Transfer Learning and CNN models. You will build a GUI application for this purpose. In Chapter 3, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform classifying cats/dogs using dataset provided by Kaggle (<https://www.kaggle.com/chetankv/dogs-cats-images>) using Using CNN with Data Generator. You will build a GUI application for this purpose. In Chapter 4, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform detecting furnitures using Furniture Detector dataset provided by Kaggle (<https://www.kaggle.com/akkithetechie/furniture-detector>) using VGG16 model. You will build a GUI application for this purpose. In Chapter 5, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform classifying fashion using Fashion MNIST dataset provided by Kaggle (<https://www.kaggle.com/zalando-research/fashionmnist/code>) using CNN model. You will build a GUI application for this purpose.

**WORKSHOP 3:** In this workshop, you will implement deep learning on detecting vehicle license plates, recognizing sign language, and detecting surface crack using TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries. In Chapter 1, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform detecting vehicle license plates using Car License Plate Detection dataset provided by Kaggle (<https://www.kaggle.com/andrewmvd/car-plate-detection/download>). In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform sign language recognition using Sign Language Digits Dataset provided by Kaggle (<https://www.kaggle.com/ardamavi/sign-language-digits-dataset/download>). In Chapter 3, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other



libraries to perform detecting surface crack using Surface Crack Detection provided by Kaggle (<https://www.kaggle.com/arunrk7/surface-crack-detection/download>). WORKSHOP 4: In this workshop, implement deep learning-based image classification on detecting face mask, classifying weather, and recognizing flower using TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries. In Chapter 1, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform detecting face mask using Face Mask Detection Dataset provided by Kaggle (<https://www.kaggle.com/omkargurav/face-mask-dataset/download>). In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform how to classify weather using Multi-class Weather Dataset provided by Kaggle (<https://www.kaggle.com/pratik2901/multiclass-weather-dataset/download>). WORKSHOP 5: In this workshop, 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, OpenCV, Pandas, NumPy and other libraries. In Chapter 1, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform how to classify monkey species using 10 Monkey Species dataset provided by Kaggle (<https://www.kaggle.com/slothkong/10-monkey-species/download>). In Chapter 2, you will learn how to use TensorFlow, Keras, Scikit-Learn, OpenCV, Pandas, NumPy and other libraries to perform how to recognize rock, paper, and scissor using 10 Monkey Species dataset provided by Kaggle (<https://www.kaggle.com/sanikamal/rock-paper-scissors-dataset/download>). WORKSHOP 6: In this workshop, you will implement two data science projects using Scikit-Learn, Scipy, and other libraries with Python GUI. In Chapter 1, you will learn how to use Scikit-Learn, Scipy, and other libraries to perform how to predict traffic (number of vehicles) in four different junctions using Traffic Prediction Dataset provided by Kaggle (<https://www.kaggle.com/fedesoriano/traffic-prediction-dataset/download>). This dataset contains 48.1k (48120) observations of the number of vehicles each hour in four different junctions: 1) DateTime; 2) Junction; 3) Vehicles; and 4) ID. In Chapter 2, you will learn how to use Scikit-Learn, NumPy, Pandas, and other libraries to perform how to analyze and predict heart attack using Heart Attack Analysis & Prediction Dataset provided by Kaggle (<https://www.kaggle.com/rashikrahmanpritom/heart-attack-analysis-prediction-dataset/download>). WORKSHOP 7: In this workshop, you will implement two data science projects using Scikit-Learn, Scipy, and other libraries with Python GUI. In Project 1, you will learn how to use Scikit-Learn, NumPy, Pandas, Seaborn, and other libraries to perform how to predict early stage diabetes using Early Stage Diabetes Risk Prediction Dataset provided by Kaggle (<https://www.kaggle.com/ishandutta/early-stage-diabetes-risk-prediction-dataset/download>). This dataset contains the sign and symptom data of newly diabetic or would be diabetic patient. This has been collected using direct questionnaires from the patients of Sylhet Diabetes Hospital in Sylhet, Bangladesh and approved by a doctor. You will develop a GUI using PyQt5 to plot distribution of features, feature importance, cross validation score, and predicted values versus true values. The machine learning models used in this project are Adaboost, Random Forest, Gradient Boosting, Logistic Regression, and Support Vector Machine. In Project 2, you will learn how to use Scikit-Learn, NumPy, Pandas, and other libraries to perform how to analyze and predict breast cancer using Breast Cancer Prediction Dataset provided by Kaggle (<https://www.kaggle.com/merishnasuwal/breast-cancer-prediction-dataset/download>). Worldwide, breast cancer is the most common type of cancer in women and the second highest in terms of mortality rates. Diagnosis of breast cancer is performed when an abnormal lump is found (from self-examination or x-ray) or a tiny speck of calcium is seen (on an x-ray). After a suspicious lump is found, the doctor will conduct a diagnosis to determine whether it is cancerous and, if so, whether it has spread to other parts of the body. This breast cancer dataset was obtained from the University of Wisconsin Hospitals, Madison from Dr. William H. Wolberg. You will develop a GUI using PyQt5 to plot distribution of features, pairwise relationship, test scores,

predicted values versus true values, confusion matrix, and decision boundary. The machine learning models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, and Support Vector Machine. WORKSHOP 8: In this workshop, you will learn how to use Scikit-Learn, TensorFlow, Keras, NumPy, Pandas, Seaborn, and other libraries to implement brain tumor classification and detection with machine learning using Brain Tumor dataset provided by Kaggle. This dataset contains five first order features: Mean (the contribution of individual pixel intensity for the entire image), Variance (used to find how each pixel varies from the neighboring pixel 0, Standard Deviation (the deviation of measured Values or the data from its mean), Skewness (measures of symmetry), and Kurtosis (describes the peak of e.g. a frequency distribution). It also contains eight second order features: Contrast, Energy, ASM (Angular second moment), Entropy, Homogeneity, Dissimilarity, Correlation, and Coarseness. The machine learning models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, and Support Vector Machine. The deep learning models used in this project are MobileNet and ResNet50. In this project, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, training loss, and training accuracy. WORKSHOP 9: In this workshop, you will learn how to use Scikit-Learn, Keras, TensorFlow, NumPy, Pandas, Seaborn, and other libraries to perform COVID-19 Epitope Prediction using COVID-19/SARS B-cell Epitope Prediction dataset provided in Kaggle. All of three datasets consists of information of protein and peptide: parent\_protein\_id : parent protein ID; protein\_seq : parent protein sequence; start\_position : start position of peptide; end\_position : end position of peptide; peptide\_seq : peptide sequence; chou\_fasman : peptide feature; emini : peptide feature, relative surface accessibility; kolaskar\_tongaonkar : peptide feature, antigenicity; parker : peptide feature, hydrophobicity; isoelectric\_point : protein feature; aromacity: protein feature; hydrophobicity : protein feature; stability : protein feature; and target : antibody valence (target value). The machine learning models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, Support Vector Machine, Adaboost, Gradient Boosting, XGB classifier, and MLP classifier. Then, you will learn how to use sequential CNN and VGG16 models to detect and predict Covid-19 X-RAY using COVID-19 Xray Dataset (Train & Test Sets) provided in Kaggle. The folder itself consists of two subfolders: test and train. Finally, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, training loss, and training accuracy. WORKSHOP 10: In this workshop, you will learn how to use Scikit-Learn, Keras, TensorFlow, NumPy, Pandas, Seaborn, and other libraries to perform analyzing and predicting stroke using dataset provided in Kaggle. The dataset consists of attribute information: id: unique identifier; gender: "Male", "Female" or "Other"; age: age of the patient; hypertension: 0 if the patient doesn't have hypertension, 1 if the patient has hypertension; heart\_disease: 0 if the patient doesn't have any heart diseases, 1 if the patient has a heart disease; ever\_married: "No" or "Yes"; work\_type: "children", "Govt\_jov", "Never\_worked", "Private" or "Self-employed"; Residence\_type: "Rural" or "Urban"; avg\_glucose\_level: average glucose level in blood; bmi: body mass index; smoking\_status: "formerly smoked", "never smoked", "smokes" or "Unknown"; and stroke: 1 if the patient had a stroke or 0 if not. The models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, Support Vector Machine, Adaboost, LGBM classifier, Gradient Boosting, XGB classifier, MLP classifier, and CNN 1D. Finally, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, learning curve, performace of the model, scalability of the model, training loss, and training accuracy. WORKSHOP 11: In this workshop, you will learn how to use Scikit-Learn, Keras, TensorFlow, NumPy, Pandas, Seaborn, and other libraries to perform classifying

and predicting Hepatitis C using dataset provided by UCI Machine Learning Repository. All attributes in dataset except Category and Sex are numerical. Attributes 1 to 4 refer to the data of the patient: X (Patient ID/No.), Category (diagnosis) (values: '0=Blood Donor', '0s=suspect Blood Donor', '1=Hepatitis', '2=Fibrosis', '3=Cirrhosis'), Age (in years), Sex (f,m), ALB, ALP, ALT, AST, BIL, CHE, CHOL, CREA, GGT, and PROT. The target attribute for classification is Category (2): blood donors vs. Hepatitis C patients (including its progress ('just' Hepatitis C, Fibrosis, Cirrhosis)). The models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, Support Vector Machine, Adaboost, LGBM classifier, Gradient Boosting, XGB classifier, MLP classifier, and ANN 1D. Finally, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, learning curve, performance of the model, scalability of the model, training loss, and training accuracy.

This book gathers selected papers presented at the conference “Advances in 3D Image and Graphics Representation, Analysis, Computing and Information Technology,” one of the first initiatives devoted to the problems of 3D imaging in all contemporary scientific and application areas. The aim of the conference was to establish a platform for experts to combine their efforts and share their ideas in the related areas in order to promote and accelerate future development. This second volume discusses algorithms and applications, focusing mainly on the following topics: 3D printing technologies; naked, dynamic and auxiliary 3D displays; VR/AR/MR devices; VR camera technologies; microprocessors for 3D data processing; advanced 3D computing systems; 3D data-storage technologies; 3D data networks and technologies; 3D data intelligent processing; 3D data cryptography and security; 3D visual quality estimation and measurement; and 3D decision support and information systems.

Ooit, in Stone Creek, deed hij haar een belofte. Nu moet hij die inlossen... Tien jaar geleden deed Gideon Yarbrow het weesmeisje Lydia een belofte: mocht ze ooit hulp nodig hebben, dan moest ze hem een brief sturen. Nu is het zover. Lydia, inmiddels een mooie jonge vrouw, roept zijn hulp in omdat ze wordt gedwongen tot een liefdeloos huwelijk. Gideon besluit haar te kidnappen en zelf met haar te trouwen. Lydia is al jaren heimelijk verliefd op Gideon. Met hem samenwonen in Stone Creek is als een droom die uitkomt. Toch is ze niet gelukkig: Gideon gedraagt zich afstandelijk, en ze voelt dat hij iets voor haar verbergt. Als speurder voor Wells Fargo werkt Gideon aan een levensgevaarlijke klus, die als gevolg heeft dat hij binnenkort Stone Creek voorgoed moet verlaten. Hij wordt verscheurd tussen plichtsbesef en zijn verlangen naar Lydia. Is hij sterk genoeg om haar achter te laten, zodat ze een man kan vinden die wél bij haar kan blijven?

Development along the Oregon coast is continuing in areas that are known to be hazardous, in spite of strict zoning and other laws. The coast commonly sees erosion that can wash away cliffs and undermine structures as well as accretion that can bury houses in sand. However the much more acute risk is the potential for a tsunami triggered by an earthquake in the ocean. This paper examines the factors influencing development along the Oregon coast using satellite imagery and other spatial data. An econometric model for land use change at the pixel level is developed. The scale at which the data (satellite imagery) are collected is different from the scale at which development occurs, leading to spatial correlation among pixels that are geographically close to each other. Estimating a standard probit model in this case leads to parameter estimates that are inconsistent. Incorporating a spatial lag of the dependent variable will account for the spatial autocorrelation but makes maximum likelihood estimation nearly impossible so a Bayesian approach is used instead. A Gibbs's sampling algorithm is implemented to estimate the conditional distribution of each parameter in the model, from which parameter estimates can be derived. The Bayesian spatial probit estimation is very computationally intensive however the results indicate that the spatial lag is a crucial

part of the model. This approach also allows projections of the spatial pattern of future development, unlike estimation methods that sample the data to remove autocorrelation among observations. The spatial lag model is then used to project future development patterns in several regions along the Oregon coast and explore potential applications of this projection model. In particular, predicted development patterns in the tsunami hazard zone are examined in the Waldport area, on the central coast of Oregon.

een schokkende reconstructie van Trumps eerste termijn als president door twee topjournalisten met ongeëvenaarde toegang tot het Witte Huis In 2020 gaan de Amerikanen weer naar de stembus om een president te kiezen. Wat zou nog vier jaar Trump betekenen? Philip Rucker en Carol Leonnig nemen afstand van de dagelijkse waan van breaking news en Twitter voor een reconstructie van de eerste ambtstermijn. Op basis van meer dan 200 bronnen in en om het Witte Huis wordt een schokkend beeld geschetst van de dagelijkse gang van zaken in het Oval Office en van Trumps ontmoetingen met buitenlandse regeringsleiders. Terwijl het onderzoek van Robert Mueller over Russische inmenging en de impeachment van het Huis van Afgevaardigden boven Trumps hoofd hangen, proberen zijn ambtenaren voortdurend de veroorzaakte rommel op te ruimen. De auteurs geven een verhelderend beeld van de unieke invulling die Trump heeft gegeven aan het presidentschap. Volgens hen is het een vergissing om deze slechts als chaos te beschouwen. De pogingen van Donald Trump om de Amerikaanse instituties en internationale bondgenootschappen op de proef te stellen, zijn succesvoller dan verwacht. Philip Rucker is chef verslaggeving over het Witte Huis bij The Washington Post en versloeg eerder de verkiezingen van 2012 en 2016 en de regering-Obama. Carol Leonnig is onderzoeksjournalist bij The Washington Post, waar ze sinds 2000 werkt. In 2015 won ze de Pulitzerprijs voor haar artikel over wangedrag bij de Geheime Dienst en in 2017 (samen met Rucker) voor Ruslands inmenging tijdens de presidentsverkiezingen van 2016. Beiden zijn vaste gasten bij tv-zender MSNBC.

Proceedings of SPIE present the original research papers presented at SPIE conferences and other high-quality conferences in the broad-ranging fields of optics and photonics. These books provide prompt access to the latest innovations in research and technology in their respective fields. Proceedings of SPIE are among the most cited references in patent literature.

Londen 1850. Mist en vuile straten, en een begraafplaats met de naam Tom-All-Along's waar ratten wonen. De eerbiedwaardige advocaat Edward Tulkinghorn houdt kantoor in een chique huis in Lincoln's Inn Fields, waar hij zijn machtige cliënten beschermt en een dodelijk geheim verbergt. Dat geheim dreigt te worden onthuld door een schimmige en onzichtbare tegenstander, die koste wat het kost moet worden opgespoord en tot zwijgen gebracht. Ex-politieagent Charles Maddox, nu privédetective, moet die klus klaren. Al gauw wordt de eerste gruwelijke moord gepleegd. Lynn Shepherd heeft zich voor Kerkhof in Londen laten inspireren door Charles Dickens' meesterwerk Bleak House. Ze is verdergegaan waar Dickens moest ophouden: in haar spannende historische roman beschrijft ze een wereld waarin jeugdprostituees en te vondeling gelegde baby's ten prooi vallen aan de hebzucht en seksuele afwijkingen van de gegoede burgerij. En iedereen die daartegenin wil gaan wordt op genadeloze wijze uit de weg geruimd.

We ervaren dagelijks hoe we dankzij slimme zoektermen op Google een bijna oneindig geheugen hebben. Uit onderzoek blijkt dat intensieve gebruikers van Twitter en Facebook voor bepaalde onderwerpen een vorm van intuïtie, ook wel 'ambient awareness', ontwikkelen die tien jaar geleden nog onbekend was. Wetenschappers gebruiken software om denkstappen te maken die met

alleen hun hersenen onmogelijk zouden zijn. En miljoenen mensen blijken het schrijven van een e-mail te gebruiken om hun gedachten te ordenen. In *We worden steeds slimmer* laat Clive Thompson zien dat onze denkwerelden rijker en complexer worden naarmate we meer op techniek vertrouwen. We leren en onthouden meer, nemen de wereld om ons heen anders waar en hebben zelfs totaal nieuwe gedachten. Thompson vertelt hoe we smartphones, social media, zoekmachines, tekstverwerkers en nog talloze andere technologieën kunnen gebruiken om de capaciteit van onze hersenen te vergroten. Zo kunnen we een samenwerkingsverband aangaan met de schaakcomputer, of een soort extern geheugen aanleggen – net als een 76-jarige miljonair die digitaal letterlijk alles opneemt wat er in zijn leven gebeurt. Volgens Thompson zijn we bij elke technologische innovatie bang dat ons leven nooit meer hetzelfde zal zijn. Maar net als in het verleden leren we hoe we het nieuwe kunnen gebruiken en houden we vast aan wat goed is van het oude. We worden steeds slimmer presenteert in heldere taal een vernieuwend perspectief op het heden en de toekomst. Want ook onze huidige wereld is ooit sciencefiction geweest.

Het is haar allereerste grote opdracht als rechercheur: undercover gaan als serveerster in de nachtclub van Jonah Blackhawk. Het laatste wat Allison Fletcher dan ook wil, is die opdracht in gevaar brengen door zich te laten afleiden door de aantrekkelijke Jonah. Bovendien, hoe weet ze of ze hem kan vertrouwen?

The two-volume set LNCS 11751 and 11752 constitutes the refereed proceedings of the 20th International Conference on Image Analysis and Processing, ICIAP 2019, held in Trento, Italy, in September 2019. The 117 papers presented were carefully reviewed and selected from 207 submissions. The papers cover both classic and the most recent trends in image processing, computer vision, and pattern recognition, addressing both theoretical and applicative aspects. They are organized in the following topical sections: Video Analysis and Understanding; Pattern Recognition and Machine Learning; Deep Learning; Multiview Geometry and 3D Computer Vision; Image Analysis, Detection and Recognition; Multimedia; Biomedical and Assistive Technology; Digital Forensics; Image processing for Cultural Heritage.

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