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A Sparsity-Based Approach for Spectral Image Target Detection from Compressive Measurements Acquired by the CASSI Architecture¹

Un enfoque basado en escasez para detectar objetivos en imágenes espectrales a partir de medidas compresivas adquiridas por la arquitectura CASSI²

*David Alberto Boada Supelano³
Héctor Miguel Vargas García⁴
Jaime Octavio Albarracín Ferreira⁵
Henry Argüello Fuentes⁶*

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¹ Submitted on : July 4th, 2016 . Accepted on : May 19th, 2017. This paper is derived from a research project named "Detection and Classification in spectral image obtained through compressive acquisition system with a single pixel detector," with WIE code 1802, developed by the HDSP research group of Universidad Industrial de Santander, Bucaramanga, Colombia .

² Fecha de recepción : 4 de julio de 2016. Fecha de aceptación : 19 de mayo de 2017. Artículo de investigación científica y tecnológica . Este artículo se deriva de un proyecto de investigación denominado "Detección y clasificación en imágenes espectrales obtenidas a través de un sistema de adquisición compresiva con un detector de un solo píxel", con código WIE 1802, desarrollado por el grupo de investigación HDSP de la Universidad Industrial de Santander, Bucaramanga, Colombia .

³ Systems Engineer, Universidad Industrial de Santander, Bucaramanga, Colombia. E-mail: david.boada@correo.uis.edu.co

⁴ Electrical Engineer, Universidad Industrial de Santander, Bucaramanga, Colombia. E-mail: hvargas121288@gmail.com

⁵ PhD in Informatics, School of Systems Engineering and Informatics, Universidad Industrial de Santander, Bucaramanga, Colombia . E-mail: jaimelb@uis.edu.co

⁶ PhD in Electrical and Computer Engineering, Faculty of Physico-mechanical Engineering, School of Systems Engineering and Informatics, Universidad Industrial de Santander, Bucaramanga, Colombia . E-mail: henarlu@uis.edu.co

A Kernelized Sparsity Based Approach For Best Spectral

KJ Lindholm-Leary



A Kernelized Sparsity Based Approach For Best Spectral:

Face Recognition Across the Imaging Spectrum Thirimachos Bourlai, 2016-02-12 This authoritative text reference presents a comprehensive review of algorithms and techniques for face recognition FR with an emphasis on systems that can be reliably used in operational environments Insights are provided by an international team of pre eminent experts into the processing of multispectral and hyperspectral face images captured under uncontrolled environments These discussions cover a variety of imaging sensors ranging from state of the art visible and infrared imaging sensors to RGB D and mobile phone image sensors A range of different biometric modalities are also examined including face periocular and iris This timely volume is a mine of useful information for researchers practitioners and students involved in image processing computer vision biometrics and security

Deep Biometrics Richard Jiang, Chang-Tsun Li, Danny Crookes, Weizhi Meng, Christophe Rosenberger, 2020-01-28 This book highlights new advances in biometrics using deep learning toward deeper and wider background deeming it Deep Biometrics The book aims to highlight recent developments in biometrics using semi supervised and unsupervised methods such as Deep Neural Networks Deep Stacked Autoencoder Convolutional Neural Networks Generative Adversary Networks and so on The contributors demonstrate the power of deep learning techniques in the emerging new areas such as privacy and security issues cancellable biometrics soft biometrics smart cities big biometric data biometric banking medical biometrics healthcare biometrics and biometric genetics etc The goal of this volume is to summarize the recent advances in using Deep Learning in the area of biometric security and privacy toward deeper and wider applications Highlights the impact of deep learning over the field of biometrics in a wide area Exploits the deeper and wider background of biometrics such as privacy versus security biometric big data biometric genetics and biometric diagnosis etc Introduces new biometric applications such as biometric banking internet of things cloud computing and medical biometrics

Image and Video Technology Thomas Bräunl, Brendan McCane, Mariano Rivera, Xinguo Yu, 2016-02-03 This book constitutes the thoroughly refereed post conference proceedings of the 7th Pacific Rim Symposium on Image and Video Technology PSIVT 2015 held in Auckland New Zealand in November 2015 The total of 61 revised papers was carefully reviewed and selected from 133 submissions The papers are organized in topical sections on color and motion image video coding and transmission computational photography and arts computer vision and applications image segmentation and classification video surveillance biomedical image processing and analysis object and pattern recognition computer vision and pattern recognition image video processing and analysis and pattern recognition

Remote Sensing Handbook, Volume II Prasad S. Thenkabail, 2024-11-29 Volume II of the Six Volume Remote Sensing Handbook Second Edition is focused on digital image processing including image classification methods in land cover and land use It discusses object based segmentation and pixel based image processing algorithms change detection techniques and image classification for a wide array of applications including land use land cover croplands urban studies processing hyperspectral

remote sensing data thermal imagery light detection and ranging LiDAR geoprocessing workflows frontiers of GIScience and future pathways This thoroughly revised and updated volume draws on the expertise of a diverse array of leading international authorities in remote sensing and provides an essential resource for researchers at all levels interested in using remote sensing It integrates discussions of remote sensing principles data methods development applications and scientific and social context Features Provides the most up to date comprehensive coverage of digital image processing Highlights object based image analysis OBIA and pixel based classification methods and techniques of digital image processing Demonstrates practical examples of image processing for a myriad of applications such as land use land cover croplands and urban Establishes image processing using different types of remote sensing data that includes multispectral radar LiDAR thermal and hyperspectral Highlights change detection geoprocessing and GIScience This volume is an excellent resource for the entire remote sensing and GIS community Academics researchers undergraduate and graduate students as well as practitioners decision makers and policymakers will benefit from the expertise of the professionals featured in this book and their extensive knowledge of new and emerging trends *Hyperspectral Image Analysis* Saurabh Prasad,Jocelyn

Chanussot,2020-04-27 This book reviews the state of the art in algorithmic approaches addressing the practical challenges that arise with hyperspectral image analysis tasks with a focus on emerging trends in machine learning and image processing understanding It presents advances in deep learning multiple instance learning sparse representation based learning low dimensional manifold models anomalous change detection target recognition sensor fusion and super resolution for robust multispectral and hyperspectral image understanding It presents research from leading international experts who have made foundational contributions in these areas The book covers a diverse array of applications of multispectral hyperspectral imagery in the context of these algorithms including remote sensing face recognition and biomedicine This book would be particularly beneficial to graduate students and researchers who are taking advanced courses in or are working in the areas of image analysis machine learning and remote sensing with multi channel optical imagery Researchers and professionals in academia and industry working in areas such as electrical engineering civil and environmental engineering geosciences and biomedical image processing who work with multi channel optical data will find this book useful *Intelligent Computing*

Theories and Application De-Shuang Huang,Kang-Hyun Jo,Jianqiang Li,Valeriya Gribova,Vitoantonio Bevilacqua,2021-08-09 This two volume set of LNCS 12836 and LNCS 12837 constitutes in conjunction with the volume LNAI 12838 the refereed proceedings of the 17th International Conference on Intelligent Computing ICIC 2021 held in Shenzhen China in August 2021 The 192 full papers of the three proceedings volumes were carefully reviewed and selected from 458 submissions The ICIC theme unifies the picture of contemporary intelligent computing techniques as an integral concept that highlights the trends in advanced computational intelligence and bridges theoretical research with applications The theme for this conference is Advanced Intelligent Computing Methodologies and Applications The papers are organized in the following

subsections Evolutionary Computation and Learning Image and signal Processing Information Security Neural Networks Pattern Recognition Swarm Intelligence and Optimization and Virtual Reality and Human Computer Interaction

Comprehensive Remote Sensing Shunlin Liang,2017-11-08 Comprehensive Remote Sensing Nine Volume Set covers all aspects of the topic with each volume edited by well known scientists and contributed to by frontier researchers It is a comprehensive resource that will benefit both students and researchers who want to further their understanding in this discipline The field of remote sensing has quadrupled in size in the past two decades and increasingly draws in individuals working in a diverse set of disciplines ranging from geographers oceanographers and meteorologists to physicists and computer scientists Researchers from a variety of backgrounds are now accessing remote sensing data creating an urgent need for a one stop reference work that can comprehensively document the development of remote sensing from the basic principles modeling and practical algorithms to various applications Fully comprehensive coverage of this rapidly growing discipline giving readers a detailed overview of all aspects of Remote Sensing principles and applications Contains Layered content with each article beginning with the basics and then moving on to more complex concepts Ideal for advanced undergraduates and academic researchers Includes case studies that illustrate the practical application of remote sensing principles further enhancing understanding *IEEE International Geoscience and Remote Sensing Symposium Proceedings* ,2003 *Archives of Acoustics Quarterly* ,2013 **Chinese Journal of Electronics** ,2007 I. Developments in Spectral Stochastic Techniques for Gravity Field Modelling ,1998 **Spectral and High Order Methods for Partial Differential Equations** C. Canuto,Alfio Quarteroni,1990 In the last decade high order methods for scientific computing have been attracting increasing interest This trend has been generated by the need for a higher accuracy in the numerical simulation of more and more complex scientific and technological problems it is backed up by sound mathematical research and propelled by the availability of faster supercomputers Spectral methods have now become the methods preferred in the prediction of many highly structured phenomena The h p version of the finite element method has proven extremely effective in handling singularities in structural mechanics Finite differences have been demonstrated capable of blending flexibility and accuracy in applications to non smooth problems Although these and other high order methods originated from different sometimes even opposite philosophies they exhibit common features and share a large part of the methodologies for their mathematical investigation and their algorithmic implementation The technical content of the 14 invited and 30 general papers presented in this volume reflect the high standard of current research being achieved in this field **IGARSS 2003** ,2003 *Final Program and Proceedings* ,2004 **Emerging Technologies in Fluids, Structures, and Fluid/structure Interactions** ,2001 Pattern Recognition DAGM (Organization). Symposium,2004 *Parallel Supercomputing* Graham F. Carey,1989-09-28 The development of supercomputers has had considerable impact in computational mechanics This book deals with the application of parallel processing with supercomputers and examines the problems of computational

mechanics in a logical way **Science Abstracts** ,1995
Belyaev,2007 *Electrical & Electronics Abstracts* ,1997

Symposium on Geometry Processing 2007 Alexander

Whispering the Techniques of Language: An Psychological Journey through **A Kernelized Sparsity Based Approach For Best Spectral**

In a digitally-driven world wherever displays reign supreme and instant communication drowns out the subtleties of language, the profound strategies and emotional subtleties concealed within words often get unheard. However, nestled within the pages of **A Kernelized Sparsity Based Approach For Best Spectral** a interesting fictional treasure sporting with natural thoughts, lies a fantastic journey waiting to be undertaken. Penned by an experienced wordsmith, this marvelous opus attracts readers on an introspective trip, delicately unraveling the veiled truths and profound influence resonating within ab muscles cloth of every word. Within the psychological depths of the moving review, we shall embark upon a genuine exploration of the book is key subjects, dissect their charming writing design, and yield to the effective resonance it evokes serious within the recesses of readers hearts.

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