1. Record Nr. UNINA9910451492003321

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Titolo	Well-posed, ill-posed, and intermediate problems with applications [[electronic resource] /] / Yu. P. Petrov and V.S. Sizikov
Pubbl/distr/stampa	Leiden ; ; Boston, : VSP, c2005
ISBN	1-280-86872-4 9786610868728 1-4294-2711-6 90-474-1194-3 3-11-019530-5
Descrizione fisica	1 online resource (244 p.)
Collana	Inverse and ill-posed problems series, , 1381-4524
Altri autori (Persone)	SizikovV. S (Valerii Sergeevich)
Disciplina	515.35 518/.6
Soggetti	Differential equations - Numerical solutions Numerical analysis - Improperly posed problems Engineering mathematics Mathematical physics Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front matter -- Preface -- Contents -- Part I. Three classes of problems in mathematics, physics, and engineering -- Chapter 1. Simplest ill-posed problems -- Chapter 2. Problems intermediate between well- and ill-posed problems -- Chapter 3. Change of sensitivity to measurement errors under integral transformations used in modeling of ships and marine control systems -- Bibliography to Part I -- Part II. Stable methods for solving inverse problems -- Chapter 4. Regular methods for solving ill-posed problems -- Chapter 5. Inverse problems in image reconstruction and tomography -- Bibliography to Part II -- Index
Sommario/riassunto	This book deals with one of the key problems in applied mathematics, namely the investigation into and providing for solution stability in solving equations with due allowance for inaccuracies in set initial data,

	parameters and coefficients of a mathematical model for an object under study, instrumental function, initial conditions, etc., and also with allowance for miscalculations, including roundoff errors. Until recently, all problems in mathematics, physics and engineering were divided into two classes: well-posed problems and ill-posed problems. The authors introduce a third class of problems: intermediate ones, which are problems that change their property of being well- or ill-posed on equivalent transformations of governing equations, and also problems that display the property of being either well- or ill-posed depending on the type of the functional space used. The book is divided into two parts: Part one deals with general properties of all three classes of mathematical, physical and engineering problems with approaches to solve them; Part two deals with several stable models for solving inverse ill-posed problems, illustrated with numerical examples.

2.	Record Nr.	UNINA9910512174203321
	Titolo	Advances in Visual Computing : 16th International Symposium, ISVC 2021, Virtual Event, October 4-6, 2021, Proceedings, Part II / / edited by George Bebis, Vassilis Athitsos, Tong Yan, Manfred Lau, Frederick Li, Conglei Shi, Xiaoru Yuan, Christos Mousas, Gerd Bruder
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
	ISBN	3-030-90436-9
	Edizione	[1st ed. 2021.]
	Descrizione fisica	1 online resource (555 pages)
	Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics, , 3004-9954 ; ; 13018
	Disciplina	006.6
	Soggetti	Pattern recognition systems Computer vision Artificial intelligence Computer engineering Computer networks Automated Pattern Recognition Computer Vision Artificial Intelligence Computer Engineering and Networks Visió per ordinador Intel·ligència artificial Xarxes d'ordinadors Enginyeria de programari

	Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Preface -- Organization -- Keynote Talks -- Embodied Perception in-the-Wild -- Design Tools for Material Appearance -- Guidance-Enriched Visual Analytics: Challenges and Opportunities -- Learning and Accruing Knowledge over Time Using Modular Architectures -- Combining Brain-Computer Interfaces and Virtual Reality: Novel 3D Interactions and Promising Applications -- Direct Estimation of Appearance Models for Image Segmentation -- Contents - Part II -- Contents - Part I -- ST: Medical Image Analysis -- Video-Based Hand Tracking for Screening Cervical Myelopathy -- 1 Introduction -- 2 Related Work -- 2.1 Development of Medical Treatments for Cervical Myelopathy -- 2.2 Expansion of 10-Second Grip and Release Test -- 2.3 Automatic Screening Methods for Various Diseases -- 3 Method Design -- 3.1 Recording Grip and Release Test -- 3.2 Image Processing -- 3.3 Pre-processing of the Data -- 3.4 Two-Class Classification -- 4 Experiments -- 4.1 Overview -- 4.2 Validation for Each Finger and Feature Value -- 4.3 Validation for the Selected Components -- 5 Discussion -- 5.1 Consideration of Validation Results -- 5.2 Comparison with Other Screening Methods -- 5.3 Limitations and Future Work -- 6 Conclusion -- References -- NeoUNet: Towards Accurate Colon Polyp Segmentation and Neoplasm Detection -- 1 Introduction -- 2 Related Work -- 3 Polyp Segmentation and Neoplasm Detection -- 4 NeoUNet -- 4.1 Architecture -- 4.2 Loss Function -- 5 Experiments and Discussion -- 5.1 Benchmark Dataset -- 5.2 Experiment Setup -- 5.3 Results and Discussion -- 6 Conclusion -- References -- Patch-Based Convolutional Neural Networks for TCGA-BRCA Breast Cancer Classification -- 1 Introduction -- 2 Related Literature -- 3 Methodology -- 3.1 Dataset -- 3.2 Preprocessing -- 3.3 Patch Extraction -- 3.4 Patch Filtering -- 3.5 Patch Classification -- 3.6 Patch Aggregation. 3.7 Dataset Augmentation -- 4 Results and Discussion -- 4.1 Whole Slide Image Classification -- 4.2 Patch-Level and Slide-Level Classification After Grid Approach -- 4.3 Patch-Level and Slide-Level Classification After Nuclei-Guided Filtering -- 4.4 Voting Methods -- 4.5 Comparison to Related Studies -- 5 Conclusions -- References -- CT Perfusion Imaging of the Brain with Machine Learning -- 1 Introduction -- 2 Methods -- 2.1 Overview -- 2.2 Dataset -- 2.3 Pre-processing -- 2.4 Training and Deployment -- 3 Experiments -- 4 Discussion -- 5 Conclusion -- References -- Analysis of Macular Thickness Deviation Maps for Diagnosis of Glaucoma -- 1 Introduction -- 2 Methods -- 2.1 Macular OCT Imaging -- 2.2 Macular Deviation Map Processing -- 2.3 Dataset Overview -- 2.4 Machine Learning for Feature Evaluation -- 3 Results and Discussions -- 4 Conclusions -- References -- Pattern Recognition -- Variational Conditional Dependence Hidden Markov Models for Skeleton-Based Action Recognition -- 1 Introduction -- 2 Proposed Model -- 2.1 Model Definition -- 2.2 Model Training -- 2.3 Inference -- 3 Experimental Evaluation -- 3.1 Experimental Details -- 3.2 Parameter Initialization

and Hyperparameter Selection -- 3.3 States, Mixtures and Temporal Dependencies -- 3.4 Experimental Results -- 3.5 Missing Values -- 4 Conclusions -- References -- The Unreasonable Effectiveness of the Final Batch Normalization Layer -- 1 Introduction -- 2 Background -- 3 Previous Findings and Existing Hypotheses -- 3.1 Adding a Final Batch Norm Layer Before the Output Layer -- 3.2 Experimentation on PlantVillage Dataset Subject to Different Configurations -- 3.3 Derived Hypotheses -- 4 Implementation Details and Experimental Results -- 4.1 Removing the Additional BN Layer During Inference (H-1) -- 4.2 Impact Level Regarding the Imbalance Ratio (H-2) and the Batch Size (H-3).
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3.7 Histogram Processing and Correlation Metrics -- 3.8 Final Stage - Re-identification Using Multiple Features -- 3.9 Ethical Considerations -- 4 Findings and Discussion of Results -- 4.1 Single Person Comparison from 2 Separate Feeds -- 4.2 Multiple Persons Comparison from 2 Separate Feeds -- 5 Conclusion -- References -- A Method for Transferring Robot Motion Parameters Using Functional Attributes of Parts -- 1 Introduction -- 2 Problem Formulation -- 3 Parts Function -- 3.1 ``Part Functions'' of Industrial Parts -- 3.2 Robot Motion Parameters for Assembly -- 3.3 Basic Idea of Proposed Method Regarding Functional Attributes of Parts -- 4 Proposed Method for Transferring Robot Motion Parameters -- 4.1 Module for Functional-Attribute Recognition -- 4.2 Module for Transferring of Grasping and Action Points -- 4.3 Transferring Operating Pattern -- 5 Experiments on Transferring Robot Motion Parameters -- 5.1 Setup -- 5.2 Experimental Results -- 6 Conclusion -- References -- Uncooperative Satellite 6D Pose Estimation with Relative Depth Information -- 1 Introduction -- 2 Related Works -- 3 Approach -- 3.1 Image Simulation -- 3.2 Network Architecture -- 4 Experiment -- 5

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3.2 Spectral Video Restoration.

Sommario/riassunto

This two-volume set of LNCS 13017 and 13018 constitutes the refereed proceedings of the 16th International Symposium on Visual Computing, ISVC 2021, which was held in October 2021. The symposium took place virtually instead due to the COVID-19 pandemic. The 48 papers presented in these volumes were carefully reviewed and selected from 135 submissions. The papers are organized into the following topical sections: Part I: deep learning; computer graphics; segmentation; visualization; applications; 3D vision; virtual reality; motion and tracking; object detection and recognition. Part II: ST: medical image analysis; pattern recognition; video analysis and event recognition; posters.