

1. Record Nr.	UNINA9910634045803321
Titolo	Advances in visual computing : 17th International Symposium, ISVC 2022, San Diego, CA, USA, October 3-5, 2022, proceedings, part II. // edited by George Bebis, [and eight others]
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2022] ©2022
ISBN	3-031-20716-5
Descrizione fisica	1 online resource (466 pages)
Collana	Lecture Notes in Computer Science ; ; v.13599
Disciplina	929.605
Soggetti	Computer vision
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 -- Towards Scaling Up GANs -- Sensible Machine Learning for Geometry -- Designing Augmented Reality for the Future of Work -- The Future of Visual Computing via Foundation Models (Banquet Keynote Talk) -- 3D Reconstruction: Leveraging Synthetic Data for Lightweight Reconstruction -- Human-AI Interaction in Visual Analytics: Designing for the "Two Black Boxes" Problem -- Contents - Part II -- Contents - Part I -- ST: Neuro-inspired Artificial Intelligence -- Brain Shape Correspondence Analysis Using Functional Maps -- 1 Introduction -- 2 Materials and Methods -- 2.1 Database -- 2.2 Methodology -- 3 Results -- 3.1 First Experiment -- 3.2 Second Experiment -- 3.3 Third Experiment -- 4 Conclusions -- References -- Biomimetic Oculomotor Control with Spiking Neural Networks -- 1 Introduction -- 2 Related Work -- 3 Eye Model and Neuromuscular Oculomotor Controller -- 4 Spiking Neurons -- 4.1 Encoding the Input Signals -- 4.2 Outputs -- 5 The SLiNet Model -- 5.1 Architecture -- 5.2 Training -- 6 Experiments -- 6.1 Eye Movements -- 6.2 Comparison to Human Eye Movements -- 7 Conclusions -- References -- Border Ownership, Category Selectivity and Beyond -- 1 Introduction -- 2 Implementation -- 2.1 Border-Ownership Coding Method -- 2.2 Category-Selective Coding Method -- 2.3 TcNet -- 3 Results -- 3.1 Datasets -- 3.2 Statistic Evaluation Criteria -- 4 Discussion -- 4.1 T-Junctions and Other 'KEY' Points --

4.2 Global Context Awareness -- 4.3 Early Object Representation, 'PRoto-Object' -- 4.4 Relation to Biological Vision Systems -- 5
Summary -- References -- Sparse Kernel Transfer Learning -- 1
Introduction -- 2 Background -- 2.1 Background in Convolutional Neural Networks -- 2.2 Background in Sparse Coding -- 3
Methodology -- 3.1 Dictionary Learning -- 3.2 Initialization Techniques -- 3.3 Datasets.
3.4 Kernel Transfer Learning -- 4 Experiments and Results -- 4.1 Comparison with Other Initialization Methods -- 4.2 Learning with Less Labels -- 4.3 Breast Cancer Detection -- 4.4 Interpretability and Complexity -- 5 Conclusion -- References -- Applications -- Photobombing Removal Benchmarking -- 1 Introduction -- 2 Related Work -- 2.1 Traditional Methods -- 2.2 Deep Learning-based Methods -- 3 Photobombing Removal Benchmark -- 3.1 Benchmarking Dataset -- 3.2 Benchmarking Methods -- 4 Experiments -- 4.1 Performance Metrics -- 4.2 Experimental Results -- 5 Conclusion and Future Works -- References -- Automatic Detection and Recognition of Products and Planogram Conformity Analysis in Real Time on Store Shelves -- 1 Introduction -- 1.1 Features for Detection of Retail Products -- 1.2 Detection of Single Product -- 2 Clustering by Products Famillies -- 2.1 Multi-object Detection with ASIFT -- 2.2 Distance Normalisation -- 2.3 DBSCAN: Products Famillies -- 2.4 Shelf Planogram Conformity Rate -- 3 Experiments -- 3.1 Database -- 3.2 Evaluation Metrics -- 4 Conclusion -- References -- Enhancing Privacy in Computer Vision Applications: An Emotion Preserving Approach to Obfuscate Faces -- 1 Introduction -- 2 Related Work -- 3 Approach -- 3.1 Face Detection -- 3.2 Face Selection -- 3.3 Face Reconstruction -- 3.4 Color Adaptation -- 3.5 Cloning -- 4 Validation -- 4.1 Experiment -- 4.2 Results -- 5 Conclusion and Future Work -- References -- House Price Prediction via Visual Cues and Estate Attributes -- 1 Introduction -- 2 Related Work -- 3 Proposed Work -- 3.1 Data Collection -- 3.2 Computational Model -- 4 Experiments -- 4.1 Evaluation Metrics -- 4.2 Experimental Results -- 4.3 Ablation Studies -- 5 Conclusion and Future Works -- References -- DRB-Net: Dilated Residual Block Network for Infrared Image Restoration -- 1 Introduction -- 2 Related Work.
2.1 Non-learning Denoising Methods -- 2.2 Discriminative Learning Denoising Methods -- 2.3 Deep Learning for IR Imaging -- 3 Proposed Architecture -- 3.1 Why Dilated Convolution? -- 3.2 Residual Blocks -- 3.3 Architecture and Compared Methods -- 4 Dataset -- 4.1 Sample Preparation and Image Acquisition -- 4.2 Dataset Creation -- 4.3 Implementation -- 5 Experiments -- 5.1 DRB-Net Specification -- 5.2 Denoising of Synthetic Noisy Data -- 5.3 Generalization and Robustness Test -- 6 Conclusion and Future Work -- References -- Segmentation and Tracking -- Saliency Can Be All You Need in Contrastive Self-supervised Learning -- 1 Introduction -- 2 Motivation and Background -- 2.1 Related Work -- 2.2 Concrete Background -- 3 Implementation, Setup and Results -- 3.1 Setup and Datasets -- 3.2 Preliminary: Running SGD on NORCE-PV and MultiRes-PV Datasets -- 3.3 An Efficient Implementation -- 3.4 Using SGD as an Augmentation Policy in Contrastive SSL Algorithms -- 4 Discussion -- 5 Conclusions -- References -- GCEENet: A Global Context Enhancement and Exploitation for Medical Image Segmentation -- 1 Introduction -- 2 Related Work -- 2.1 Convolutional Neural Networks for Semantic Segmentation -- 2.2 Contextual Information Modeling -- 3 Proposed Architecture -- 3.1 Overview -- 3.2 Global Context Encoder Module -- 3.3 Local Distribution -- 3.4 Aggregator Module -- 3.5 Loss Function -- 4 Experiments and Discussion -- 4.1 Benchmark Datasets -- 4.2 Experiment Settings -- 5 Results and Discussion -- 5.1 Ablation Study

-- 5.2 Comparison to Baseline Models -- 6 Conclusion -- References
-- V2F: Real Time Video Segmentation with Apache Flink -- 1
Introduction -- 2 Related Work -- 3 Video2Flink Architecture -- 3.1
V2F Operators -- 4 Experiments -- 5 Conclusions and Future Work --
References -- Joint Discriminative and Metric Embedding Learning for
Person Re-identification.
1 Introduction -- 2 Related Work -- 3 Proposed Approach -- 3.1
Classification Losses -- 3.2 Metric Learning Loss -- 3.3 Joint
Classification and Metric Loss -- 3.4 Network Architecture -- 4
Experiments -- 4.1 Implementation Details -- 4.2 Comparison with
State-of-the-Art Methods -- 4.3 Ablation Study -- 5 Conclusions --
References -- Transformer Networks for Future Person Localization in
First-Person Videos -- 1 Introduction -- 2 Related Work -- 3 Proposed
Method -- 3.1 Problem Overview -- 3.2 Input Overview -- 3.3
Implementation Details -- 4 Experiments -- 4.1 Evaluation Metrics and
Baselines -- 4.2 Quantitative Results -- 4.3 Additional Analysis -- 4.4
Inference Time Analysis -- 5 Conclusion -- References -- Virtual
Reality -- VR-SFT: Reproducing Swinging Flashlight Test in Virtual
Reality to Detect Relative Afferent Pupillary Defect -- 1 Introduction --
2 Literature Review -- 3 Methodology -- 3.1 Swinging Flashlight Test
in Virtual Reality -- 3.2 VR Implementation and Experimental Software
-- 3.3 RAPD Scoring -- 4 Dataset -- 5 Data Analysis and Results -- 6
Discussion and Future Work -- References -- A Quantitative Analysis of
Redirected Walking in Virtual Reality Using Saccadic Eye Movements --
1 Introduction -- 2 Methodology -- 2.1 Simulation and Hardware --
2.2 Simulation Tasks and Data Collection -- 2.3 Eye Tracking -- 2.4
Questionnaire -- 2.5 Demographics -- 3 Results -- 4 Conclusion and
Future Work -- References -- A DirectX-Based DICOM Viewer for Multi-
user Surgical Planning in Augmented Reality -- 1 Introduction -- 2
Related Work -- 2.1 Holographic DICOM Viewer Prototypes -- 2.2
Interaction with 3D Objects -- 3 System Design Overview -- 4
Direct3D-Based DICOM Viewer Implementation -- 4.1 Smartphones as
User Input Devices -- 4.2 Functionalities -- 4.3 Marker-Based 3D
Object Placement -- 5 User Interactions -- 5.1 Virtual 2D Plane Touch.
5.2 3D User Interaction -- 6 Experiments -- 7 Conclusions --
References -- Virtual-Reality Based Vestibular Ocular Motor Screening
for Concussion Detection Using Machine-Learning -- 1 Introduction --
2 Related Work -- 3 Methodology -- 3.1 Naive Bayes -- 3.2 Decision
Tree -- 3.3 Random Forest -- 3.4 Support Vector Classifier -- 3.5
AdaBoost -- 3.6 Gaussian Process Classifier -- 3.7 Logistic Regression
-- 3.8 Perceptron -- 3.9 Isolation Forest -- 3.10 One Class SVM -- 4
Experimental Analysis -- 4.1 Data Collection Using Virtual-Reality
Headset -- 4.2 Data Splitting for Training and Testing -- 4.3
Qualitative Evaluation -- 4.4 Quantitative Evaluation -- 5 Conclusion --
References -- Posters -- GUILD - A Generator for Usable Images in
Large-Scale Datasets -- 1 Introduction -- 2 Related Work -- 2.1
Manual Collection of Datasets -- 2.2 Synthetic Generation of Datasets
-- 3 Implementation -- 3.1 Approach -- 3.2 Object Models -- 3.3
Environments -- 3.4 Label Generation -- 4 Evaluation -- 4.1 Evaluation
Design -- 4.2 Evaluation Datasets -- 4.3 Accuracy -- 4.4
Generalizability -- 4.5 Variety -- 5 Conclusion and Future Work --
References -- Distributional Semantics of Line Charts for Trend
Classification -- 1 Introduction -- 2 Dataset -- 3 Related Work -- 3.1
Information Graphic Description Generation -- 3.2 Prototype Learning
-- 3.3 Bag of Words for Computer Vision -- 3.4 Distributional
Semantics -- 4 Architecture and Methodology -- 4.1 Forming the
Vocabulary -- 4.2 Line Chart Embeddings -- 4.3 Classification -- 5
Implementation -- 6 Experiments and Results -- 6.1 Classification

Task -- 6.2 Results -- 7 Discussion -- 8 Conclusion -- References --
Deep Learning Hyperparameter Optimization for Breast Mass Detection
in Mammograms -- 1 Introduction -- 2 Background and Motivation --
2.1 End-to-End Pipeline -- 2.2 Genetic Algorithm -- 2.3 Binary
Tournament Selection.
2.4 Simulated Binary Crossover (SBX).
