

1. Record Nr.	UNISA996594167903316
Autore	Yang De-Nian
Titolo	Advances in Knowledge Discovery and Data Mining : 28th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2024, Taipei, Taiwan, May 7-10, 2024, Proceedings, Part III
Pubbl/distr/stampa	Singapore : , : Springer Singapore Pte. Limited, , 2024 ©2024
ISBN	981-9722-59-4
Edizione	[1st ed.]
Descrizione fisica	1 online resource (448 pages)
Collana	Lecture Notes in Computer Science Series ; ; v.14647
Altri autori (Persone)	XieXing TsengVincent S PeiJian HuangJen-Wei LinJerry Chun-Wei
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- General Chairs' Preface -- PC Chairs' Preface -- Organization -- Contents - Part III -- Interpretability and Explainability -- Neural Additive and Basis Models with Feature Selection and Interactions -- 1 Introduction -- 2 Generalized Additive Models (GAMs) -- 2.1 Neural Additive Model (NAM) -- 2.2 Neural Basis Model (NBM) -- 3 NAM and NBM with Feature Selection -- 3.1 Motivation -- 3.2 Model Architecture -- 3.3 Implementation Remark -- 4 Discussion of Model Complexities -- 5 Experiments -- 5.1 Experimental Settings -- 5.2 Baselines -- 5.3 Results -- 6 Conclusion -- References -- Random Mask Perturbation Based Explainable Method of Graph Neural Networks -- 1 Introduction -- 2 Related Work -- 3 Problem Statement -- 4 Explainable Method -- 4.1 Node Importance Based on Fidelity -- 4.2 Explanation Sparsity -- 5 Experiments -- 5.1 Experimental Setup -- 5.2 Quantitative Experiments -- 5.3 Ablation Study -- 5.4 Use Case -- 6 Conclusion -- References -- RouteExplainer: An Explanation Framework for Vehicle Routing Problem -- 1 Introduction -- 2 Related Work -- 3 Proposed Framework: RouteExplainer -- 3.1 Many-to-Many Edge Classifier --

3.2 Counterfactual Explanation for VRP -- 4 Experiments -- 4.1 Quantitative Evaluation of the Edge Classifier -- 4.2 Qualitative Evaluation of Generated Explanations -- 5 Conclusion and Future Work -- References -- On the Efficient Explanation of Outlier Detection Ensembles Through Shapley Values -- 1 Introduction -- 2 Related Work -- 3 Outlier Detection Ensembles -- 4 The bagged Shapley Values -- 5 Theoretical Guarantees for the Approximation -- 6 Experiments -- 6.1 Quality of the Approximation -- 6.2 Effectiveness -- 6.3 Scalability -- 7 Conclusions -- References -- Interpreting Pretrained Language Models via Concept Bottlenecks -- 1 Introduction -- 2 Related Work -- 2.1 Interpreting Pretrained Language Models. 2.2 Learning from Noisy Labels -- 3 Enable Concept Bottlenecks for PLMs -- 3.1 Problem Setup -- 4 C3M: A General Framework for Learning CBE-PLMs -- 4.1 ChatGPT-Guided Concept Augmentation -- 4.2 Learning from Noisy Concept Labels -- 5 Experiments -- 6 Conclusion -- A Definitions of Training Strategies -- B Details of the Manual Concept Annotation for the IMDB Dataset -- C Implementation Detail -- D Parameters and Notations -- E Statistics of Data Splits -- F Statistics of Concepts in Transformed Datasets -- G More Results on Explainable Predictions -- H A Case Study on Test-Time Intervention -- I Examples of Querying ChatGPT -- References -- Unmasking Dementia Detection by Masking Input Gradients: A JSM Approach to Model Interpretability and Precision -- 1 Introduction -- 2 Related Work -- 3 Methods -- 3.1 Jacobian Saliency Map (JSM) -- 3.2 Jacobian-Augmented Loss Function (JAL) -- 4 Experiments -- 4.1 Dataset -- 4.2 Preprocessing -- 4.3 Multimodal Classification -- 4.4 Performance Evaluation -- 5 Conclusion -- References -- Towards Nonparametric Topological Layers in Neural Networks -- 1 Introduction -- 1.1 Background -- 1.2 Motivation and Challenges -- 1.3 Contributions -- 2 Preliminaries and Related Work -- 2.1 Basics of Topology -- 2.2 Topological Neural Network -- 2.3 Functional Spaces for Machine Learning -- 3 Methodology -- 4 Evaluation -- 4.1 Experimental Setup -- 4.2 Implementation -- 4.3 Overall Performance -- 4.4 Learning Rate -- 4.5 Temporal-Spatial Correlation -- 5 Conclusion -- References -- Online, Streaming, Distributed Algorithms -- Streaming Fair k-Center Clustering over Massive Dataset with Performance Guarantee -- 1 Introduction -- 1.1 Problem Statement -- 1.2 Related Work -- 1.3 Our Contribution -- 2 A Two-Pass Algorithm with Approximation Ratio 3 -- 2.1 The ϵ -Independent Center Set -- 2.2 The Two-Pass Streaming Algorithm. 3 The Streaming Algorithm with an Approximation Ratio 7 -- 3.1 The Streaming Algorithm for Constructing 1 and 2 -- 3.2 Post-streaming Construction of Center Set C from 12 -- 4 Experimental Results -- 4.1 Experimental Setting -- 4.2 Experimental Analysis -- 5 Conclusion -- References -- Projection-Free Bandit Convex Optimization over Strongly Convex Sets -- 1 Introduction -- 2 Related Work -- 2.1 Projection-Free OCO Algorithms -- 2.2 Bandit Convex Optimization -- 3 Main Results -- 3.1 Preliminaries -- 3.2 Our Proposed Algorithm -- 3.3 Theoretical Guarantees -- 4 Experiments -- 4.1 Problem Settings -- 4.2 Experimental Results -- 5 Conclusion -- References -- Adaptive Prediction Interval for Data Stream Regression -- 1 Introduction -- 2 Related Work -- 3 Background -- 4 Adaptive Prediction Interval(AdaPI) -- 5 Experiments and Results -- 5.1 Comparison to Interval Forecast -- 5.2 Comparison Between MVE and AdaPI -- 6 Conclusions -- References -- Probabilistic Guarantees of Stochastic Recursive Gradient in Non-convex Finite Sum Problems -- 1 Introduction -- 1.1 Related Works -- 1.2 Our Contributions -- 1.3 Notation -- 2 Prob-SARAH Algorithm -- 3 Theoretical Results -- 3.1 Technical Assumptions --

3.2 Main Results on Complexity -- 3.3 Proof Sketch -- 4 Numerical Experiments -- 4.1 Logistic Regression with Non-convex Regularization -- 4.2 Two-Layer Neural Network -- 5 Conclusion -- References -- Rethinking Personalized Federated Learning with Clustering-Based Dynamic Graph Propagation -- 1 Introduction -- 2 Related Work -- 3 Methodology -- 3.1 Model Overview -- 3.2 Client Model Clustering -- 3.3 Dynamic Weighted Graph Construction -- 3.4 Knowledge Propagation and Aggregation -- 3.5 Precise Personalized Model Distribution -- 4 Experiment -- 4.1 Experiment Setup -- 4.2 Performance Evaluation -- 4.3 Ablation Study -- 4.4 Case Study -- 4.5 Hyperparameter Study.

5 Conclusion -- References -- Unveiling Backdoor Risks Brought by Foundation Models in Heterogeneous Federated Learning -- 1 Introduction -- 2 Related Work -- 3 Methodology -- 3.1 Threat Model -- 3.2 FMs Empowered Backdoor Attacks to HFL -- 4 Experiment -- 4.1 Experiment Setup -- 4.2 Experimental Results -- 4.3 Homogeneous Setting Evaluation -- 4.4 Case Study: Attack Effectiveness v.s. Public Data Utilization Ratio -- 4.5 Hyper-Parameter Study: ASR v.s. Poisoning Ratio -- 5 Conclusion -- References -- Combating Quality Distortion in Federated Learning with Collaborative Data Selection -- 1 Introduction -- 2 Related Works -- 3 Proposal -- 3.1 Preliminaries -- 3.2 Design Principle -- 3.3 Collaborative Sample Selection (CSS) -- 4 Evaluation -- 4.1 Datasets and Experimental Settings -- 4.2 Experimental Results -- 5 Conclusion -- References -- Probabilistic Models and Statistical Inference -- Neural Marked Hawkes Process for Limit Order Book Modeling -- 1 Introduction -- 2 Background -- 3 Neural Marked Hawkes Process -- 4 Related Work -- 5 Experiments -- 6 Conclusion -- References -- How Large Corpora Sizes Influence the Distribution of Low Frequency Text n-grams -- 1 Introduction -- 2 Background and Related Work -- 3 The Model -- 4 Results -- 4.1 The Corpora Collection -- 4.2 The Range of k Values for $W(k,C -- L,n)$ Prediction -- 4.3 The Assessment Criteria and Parameter Estimation -- 4.4 Comparison with Other Models -- 4.5 Obtained Results -- 4.6 The Predictions with Growing Corpus Size -- 5 Conclusions -- References -- Meta-Reinforcement Learning Algorithm Based on Reward and Dynamic Inference -- 1 Introduction -- 2 Background -- 2.1 Meta-Reinforcement Learning -- 2.2 Context-Based Meta-Reinforcement Learning -- 2.3 Parametric Task Distributions -- 3 Problem Statement -- 4 Method -- 4.1 Reward and Dynamics Inference.

4.2 Meta-Reinforcement Learning Algorithm Based on Reward and Dynamics Inference Encoders -- 5 Experiment -- 5.1 Common MuJoCo Environments -- 5.2 Cartesian Product Combinations of Tasks with Different Goals and Dynamics -- 6 Discussion -- References -- Security and Privacy -- SecureBoost+: Large Scale and High-Performance Vertical Federated Gradient Boosting Decision Tree -- 1 Introduction -- 2 Preliminaries -- 2.1 Gradient Boosting Decision Tree -- 2.2 Paillier Homomorphic Encryption -- 2.3 SecureBoost -- 2.4 Performance Bottlenecks Analysis for SecureBoost -- 3 Proposed SecureBoost+ Framework -- 3.1 Ciphertext Operation Optimization -- 3.2 Training Mechanism Optimization -- 4 Experiments -- 4.1 Setup -- 4.2 Ciphertext Operation Optimization Evaluation -- 4.3 Training Mechanism Optimization Evaluation -- 5 Conclusion -- References -- Construct a Secure CNN Against Gradient Inversion Attack -- 1 Introduction -- 2 Preliminary -- 2.1 Federated Learning -- 2.2 Gradient Inversion Attack -- 2.3 Recursive Gradient Attack on Privacy (R-GAP) -- 3 Secure Convolutional Neural Networks -- 4 Experiment -- 4.1 Quantitative Results -- 4.2 Quantitative Results -- 5 Related Work -- 6

Limitation and Conclusion -- References -- Backdoor Attack Against One-Class Sequential Anomaly Detection Models -- 1 Introduction -- 2 Related Work -- 3 Preliminaries -- 3.1 Deep One-Class Sequential Anomaly Detection -- 3.2 Mutual Information Maximization -- 4 Methodology -- 4.1 Threat Model -- 4.2 The Proposed Attack -- 4.3 Post-deployment Attack -- 5 Experiments -- 5.1 Experimental Setup -- 5.2 Experimental Results -- 6 Conclusions -- References -- Semi-supervised and Unsupervised Learning -- DALLMi: Domain Adaption for LLM-Based Multi-label Classifier -- 1 Introduction -- 2 Language Model and Domain Adaptation -- 3 DALLMi -- 4 Experiments -- 5 Conclusion -- References.

Contrastive Learning for Unsupervised Sentence Embedding with False Negative Calibration.
