

AAAI-24: AI for Social Impact (AISI)



ID	Title	Authors
32	Outlier Ranking for Large-Scale Public Health Data	Ananya Joshi; Tina Townes; Nolan Gormley; Luke Neureiter; Roni Rosenfeld; Bryan Wilder
785	SimFair: Physics-Guided Fairness-Aware Learning with Simulation Models	Zhihao Wang; Yiqun Xie; Zhili Li; Xiaowei Jia; Zhe Jiang; Aolin Jia; Shuo Xu
1145	Towards Automatic Boundary Detection for Human-AI Collaborative Hybrid Essay in Education	Zijie Zeng; Lele Sha; Yuheng Li; Kaixun Yang; Dragan Gašević; Guangliang Chen
1510	Bad Actor, Good Advisor: Exploring the Role of Large Language Models in Fake News Detection	Beizhe Hu; Qiang Sheng; Juan Cao; Yuhui Shi; Yang Li; Danding Wang; Peng Qi
2759	CariesXrays: Enhancing Caries Detection in Hospital-Scale Panoramic Dental X-rays via Feature Pyramid Contrastive Learning	Bingzhi Chen; Sisi Fu; Yishu Liu; Jiahui Pan; Guangming Lu; Zheng Zhang
2957	Stable Matchings in Practice: A Constraint Programming Approach	Zhaohong Sun; Naoyuki Yamada; Yoshihiro Takenami; Daisuke Moriwaki; Makoto Yokoo
3300	DISCount: Counting in Large Image Collections with Detector-Based Importance Sampling	Gustavo Perez; Subhransu Maji; Daniel Sheldon
3311	Active Reinforcement Learning for Robust Building Control	Doseok Jang; Larry Yan; Lucas Spangher; Costas J. Spanos
3447	Quantile-Regression-Ensemble: A Deep Learning Algorithm for Downscaling Extreme Precipitation	Thomas Bailie; Yun Sing Koh; Neelesh Rampal; Peter B. Gibson
3568	iTrendRNN: An Interpretable Trend-Aware RNN for Meteorological Spatiotemporal Prediction	Xu Huang; Chuyao Luo; Bowen Zhang; Huiwei Lin; Xutao Li; Yunming Ye
3890	Multi-Modal Discussion Transformer: Integrating Text, Images and Graph Transformers to Detect Hate Speech on Social Media	Liam Hebert; Gaurav Sahu; Yuxuan Guo; Nanda Kishore Sreenivas; Lukasz Golab; Robin Cohen
3943	Vector Field Oriented Diffusion Model for Crystal Material Generation	Astrid Klipfel; Yaël Fregier; Adlane Sayede; Zied Bouraoui
3998	Graph Bayesian Optimization for Multiplex Influence Maximization	Zirui Yuan; Minglai Shao; Zhiqian Chen
4034	Leveraging Opposite Gender Interaction Ratio as a Path towards Fairness in Online Dating Recommendations Based on User Sexual Orientation	Yuying Zhao; Yu Wang; Yi Zhang; Pamela Wisniewski; Charu Aggarwal; Tyler Derr
4453	BirdCollect: A Comprehensive Benchmark for Analyzing Dense Bird Flock Attributes	Kshitiz .; Sonu Shreshtha; Muskan Dosi; Bikash Dutta; Mayank Vatsa; Richa Singh; Saket Anand; Sudeep Sarkar; Sevaram Mali Parihar
4484	AutoLTS: Automating Cycling Stress Assessment via Contrastive Learning and Spatial Post-processing	Bo Lin; Shoshanna Saxe; Timothy C. Y. Chan
4515	Fairness-Aware Structured Pruning in Transformers	Abdelrahman Zayed; Gonçalo Mordido; Samira Shabani; Ioana Baldini; Sarath Chandar
4929	FairPlay: A Multi-Sided Fair Dynamic Pricing Policy for Hotels	Errikos Streviniotis; Athina Georgara; Filippo Bistaffa; Georgios Chalkiadakis
5133	RLPeri: Accelerating Visual Perimetry Test with Reinforcement Learning and Convolutional Feature Extraction	Tanvi Verma; Linh Le Dinh; Nicholas Tan; Xinxing Xu; Chingyu Cheng; Yong Liu
5210	Referee-Meta-Learning for Fast Adaptation of Locational Fairness	Weiye Chen; Yiqun Xie; Xiaowei Jia; Erhu He; Han Bao; Bang An; Xun Zhou
5346	On the Actionability of Outcome Prediction	Lydia T. Liu; Solon Barocas; Jon Kleinberg; Karen Levy

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5580	Harnessing Network Effect for Fake News Mitigation: Selecting Debunkers via Self-Imitation Learning	Xiaofei Xu; Ke Deng; Michael Dann; Xiuzhen Zhang
5838	HarvestNet: A Dataset for Detecting Smallholder Farming Activity Using Harvest Piles and Remote Sensing	Jonathan Xu; Amna Elmustafa; Liya Weldegebriel; Emnet Negash; Richard Lee; Chenlin Meng; Stefano Ermon; David Lobell
6937	Arbitrariness and Social Prediction: The Confounding Role of Variance in Fair Classification	A. Feder Cooper; Katherine Lee; Madiha Choksi; Solon Barocas; Christopher De Sa; James Grimmelmann; Jon Kleinberg; Siddhartha Sen; Baobao Zhang
6986	Unveiling the Tapestry of Automated Essay Scoring: A Comprehensive Investigation of Accuracy, Fairness, and Generalizability	Kaixun Yang; Mladen Raković; Yuyang Li; Quanlong Guan; Dragan Gašević; Guangliang Chen
7380	Causally Aware Generative Adversarial Networks for Light Pollution Control	Yuyao Zhang; Ke Guo; Xiao Zhou
7460	Pre-trained Online Contrastive Learning for Insurance Fraud Detection	Rui Zhang; Dawei Cheng; Jie Yang; Yi Ouyang; Xian Wu; Yefeng Zheng; Changjun Jiang
7570	Depression Detection via Capsule Networks with Contrastive Learning	Han Liu; Changya Li; Xiaotong Zhang; Feng Zhang; Wei Wang; Fenglong Ma; Hongyang Chen; Hong Yu; Xianchao Zhang
7677	Estimating On-Road Transportation Carbon Emissions from Open Data of Road Network and Origin-Destination Flow Data	Jinwei Zeng; Yu Liu; Jingtao Ding; Jian Yuan; Yong Li
7844	Finding ϵ and δ of Traditional Disclosure Control Systems	Ferdinando Fioretto; Keyu Zhu; Saswat Das; Pascal Van Hentenryck; Christine Task
7856	AI-Based Energy Transportation Safety: Pipeline Radial Threat Estimation Using Intelligent Sensing System	Chengyuan Zhu; Yiyuan Yang; Kaixiang Yang; Haifeng Zhang; Qinmin Yang; C. L. Philip Chen
8048	Multiple-Source Localization from a Single-Snapshot Observation Using Graph Bayesian Optimization	Zonghan Zhang; Zijian Zhang; Zhiqian Chen
8063	I Open at the Close: A Deep Reinforcement Learning Evaluation of Open Streets Initiatives	R. Teal Witter; Lucas Rosenblatt
8132	Adversarial Fairness Network	Taeuk Jang; Xiaoqian Wang; Heng Huang
8133	Decision-Making for Land Conservation: A Derivative-Free Optimization Framework with Nonlinear Inputs	Cassidy K. Buhler; Hande Y. Benson
8154	Long-Term Fair Decision Making through Deep Generative Models	Yaowei Hu; Yongkai Wu; Lu Zhang
8201	Characterizing Information Seeking Events in Health-Related Social Discourse	Omar Sharif; Madhusudan Basak; Tanzia Parvin; Ava Scharfstein; Alphonso Bradham; Jacob T. Borodovsky; Sarah E. Lord; Sarah M. Preum
8239	Promoting Fair Vaccination Strategies through Influence Maximization: A Case Study on COVID-19 Spread	Nicola Neophytou; Afaf Taik; Golnoosh Farnadi
8301	Federated Learning via Input-Output Collaborative Distillation	Xuan Gong; Shanglin Li; Yuxiang Bao; Barry Yao; Yawen Huang; Ziyang Wu; Baochang Zhang; Yefeng Zheng; David Doermann
8356	Carbon Footprint Reduction for Sustainable Data Centers in Real-Time	Soumyendu Sarkar; Avisek Naug; Ricardo Luna; Antonio Guillen; Vineet Gundecha; Sahand Ghorbanpour; Sajad Mousavi; Dejan Markovikj; Ashwin Ramesh Babu
8486	Hear You Say You: An Efficient Framework for Marine Mammal Sounds' Classification	Xiangrui Liu; Xiaou Liu; Shan Du; Julian Cheng

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8609	T-NET: Weakly Supervised Graph Learning for Combatting Human Trafficking	Pratheeksha Nair; Javin Liu; Catalina Vajiac; Andreas Olligschlaeger; Duen Horng Chau; Mirela Cazzolato; Cara Jones; Christos Faloutsos; Reihaneh Rabbany
8630	Early Detection of Extreme Storm Tide Events Using Multimodal Data Processing	Marcel Barros; Andressa Pinto; Andres Monroy; Felipe Moreno; Jefferson Coelho; Aldomar Pietro Silva; Caio Fabricio Deberaldini Netto; José Roberto Leite; Marlon Mathias; Eduardo Tannuri; Artur Jordao; Edson Gomi; Fabio Cozman; Marcelo Dottori; Anna Helena Reali Costa
8838	Unraveling Pain Levels: A Data-Uncertainty Guided Approach for Effective Pain Assessment	Xinwei Ji; Xiaomin Chang; Wei Li; Albert Y. Zomaya
8971	Fair Graph Learning Using Constraint-Aware Priority Adjustment and Graph Masking in River Networks	Erhu He; Yiqun Xie; Alexander Sun; Jacob Zwart; Jie Yang; Zhenong Jin; Yang Wang; Hassan Karimi; Xiaowei Jia
9165	Nowcasting Temporal Trends Using Indirect Surveys	Ajitesh Srivastava; Juan Marcos Ramirez; Sergio Díaz-Aranda; Jose Aguilar; Antonio Fernández Anta; Antonio Ortega; Rosa Elvira Lillo
9268	GLH-Water: A Large-Scale Dataset for Global Surface Water Detection in Large-Size Very-High-Resolution Satellite Imagery	Yansheng Li; Bo Dang; Wanchun Li; Yongjun Zhang
9405	TAU: Trajectory Data Augmentation with Uncertainty for Next POI Recommendation	Zhuang Zhuang; Tianxin Wei; Lingbo Liu; Heng Qi; Yanming Shen; Baocai Yin
9647	Automatic Interpretation of Line Probe Assay Test for Tuberculosis	Jatin Agrawal; Mukul Kumar; Avtansh Tiwari; Sachin Danisetty; Soma Dhavala; Nakul Jain; Prasaanth Balraj; Niket Singh; Siddhant Shingi; Jayakrishna Kurada; Raghuram Rao; S Anand; Nishant Kumar
9840	UV-SAM: Adapting Segment Anything Model for Urban Village Identification	Xin Zhang; Yu Liu; Yuming Lin; Qingmin Liao; Yong Li
9869	Physics-Informed Graph Neural Networks for Water Distribution Systems	Inaam Ashraf; Janine Strotherm; Luca Hermes; Barbara Hammer
9898	Evaluating Pre-trial Programs Using Interpretable Machine Learning Matching Algorithms for Causal Inference	Travis Seale-Carlisle; Saksham Jain; Courtney Lee; Caroline Levenson; Swathi Ramprasad; Brandon Garrett; Sudeepa Roy; Cynthia Rudin; Alexander Volfovsky
10191	Interpretable Long-Form Legal Question Answering with Retrieval-Augmented Large Language Models	Antoine Louis; Gijs van Dijck; Gerasimos Spanakis
10422	From Artificially Real to Real: Leveraging Pseudo Data from Large Language Models for Low-Resource Molecule Discovery	Yuhan Chen; Nuwa Xi; Yanrui Du; Haochun Wang; Jianyu Chen; Sendong Zhao; Bing Qin
10766	Fair Multivariate Adaptive Regression Splines for Ensuring Equity and Transparency	Parian Haghighat; Denisa Gándara; Lulu Kang; Hadis Anahideh
11013	Discretionary Trees: Understanding Street-Level Bureaucracy via Machine Learning	Gaurab Pokharel; Sanmay Das; Patrick Fowler
11036	Combining Deep Learning and Street View Imagery to Map Smallholder Crop Types	Jordi Laguarda Soler; Thomas Friedel; Sherrie Wang
11075	Where It Really Matters: Few-Shot Environmental Conservation Media Monitoring for Low-Resource Languages	Sameer Jain; Sedrick Scott Keh; Shova Chhetri; Karun Dewan; Pablo Izquierdo; Johanna Prussmann; Pooja Shrestha; César Suárez; Zheyuan Ryan Shi; Lei Li; Fei Fang

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11381	Spatial-Logic-Aware Weakly Supervised Learning for Flood Mapping on Earth Imagery	Zelin Xu; Tingsong Xiao; Wenchong He; Yu Wang; Zhe Jiang; Shigang Chen; Yiqun Xie; Xiaowei Jia; Da Yan; Yang Zhou
11469	CityPulse: Fine-Grained Assessment of Urban Change with Street View Time Series	Tianyuan Huang; Zejia Wu; Jiajun Wu; Jackelyn Hwang; Ram Rajagopal
11669	Deploying ADVISER: Impact and Lessons from Using Artificial Intelligence for Child Vaccination Uptake in Nigeria	Opadele Kehinde; Ruth Abdul; Bose Afolabi; Parminder Vir; Corinne Namblard; Ayan Mukhopadhyay; Abiodun Adereni
11842	Deep Reinforcement Learning for Early Diagnosis of Lung Cancer	Yifan Wang; Qining Zhang; Lei Ying; Chuan Zhou
11852	Scaling Up Pareto Optimization for Tree Structures with Affine Transformations: Evaluating Hybrid Floating Solar-Hydropower Systems in the Amazon	Marc Grimson; Rafael Almeida; Qinru Shi; Yiwei Bai; Héctor Angarita; Felipe Siqueira Pacheco; Rafael Schmitt; Alexander Flecker; Carla P. Gomes
11913	Preventing Eviction-Caused Homelessness through ML-Informed Distribution of Rental Assistance	Catalina Vajiac; Arun Frey; Joachim Baumann; Abigail Smith; Kasun Amarasinghe; Alice Lai; Kit T. Rodolfa; Rayid Ghani
12025	MedAlign: A Clinician-Generated Dataset for Instruction Following with Electronic Medical Records	Scott L. Fleming; Alejandro Lozano; William J. Haberkorn; Jenelle A. Jindal; Eduardo Reis; Rahul Thapa; Louis Blankemeier; Julian Z. Genkins; Ethan Steinberg; Ashwin Nayak; Birju Patel; Chia-Chun Chiang; Alison Callahan; Zepeng Huo; Sergios Gatidis; Scott Adams; Oluseyi Fayanju; Shreya J. Shah; Thomas Savage; Ethan Goh; Akshay S. Chaudhari; Nima Aghaeepour; Christopher Sharp; Michael A. Pfeffer; Percy Liang; Jonathan H. Chen; Keith E. Morse; Emma P. Brunskill; Jason A. Fries; Nigam H. Shah
12029	Identifying and Addressing Disparities in Public Libraries with Bayesian Latent Variable Modeling	Zhi Liu; Sarah Rankin; Nikhil Garg
12138	A Bayesian Spatial Model to Correct Under-Reporting in Urban Crowdsourcing	Gabriel Agostini; Emma Pierson; Nikhil Garg
12253	Identifying Guarantors of War Veterans Using Robust-SEAL: A Case of the Korean War	Jong in Choi; Won Kyung Lee; Jae Hwan Lee; So Young Sohn
12321	Grey-Box Bayesian Optimization for Sensor Placement in Assisted Living Environments	Shadan Golestan; Omid Ardakanian; Pierre Boulanger
12361	Blind-Touch: Homomorphic Encryption-Based Distributed Neural Network Inference for Privacy-Preserving Fingerprint Authentication	Hyunmin Choi; Simon S. Woo; Hyoungshick Kim
12611	Self-Supervised Framework Based on Subject-Wise Clustering for Human Subject Time Series Data	Eunseon Seong; Harim Lee; Dong-Kyu Chae
12654	Auto311: A Confidence-Guided Automated System for Non-emergency Call	Zirong Chen; Xutong Sun; Yuanhe Li; Meiyi Ma
12857	IndicCONAN: A Multilingual Dataset for Combating Hate Speech in Indian Context	Nihar Ranja Sahoo; Gyana Prakash Beria; Pushpak Bhattacharyya
12910	CLIPSyntel: CLIP and LLM Synergy for Multimodal Question Summarization in Healthcare	Akash Ghosh; Arkadeep Acharya; Raghav Jain; Sriparna Saha; Aman Chadha; Setu Sinha
12917	Fair Sampling in Diffusion Models through Switching Mechanism	Yujin Choi; Jinseong Park; Hoki Kim; Jaewook Lee; Saerom Park
13079	Social, Legal, Ethical, Empathetic, and Cultural Rules: Compilation and Reasoning	Nicolas Troquard; Martina De Sanctis; Paola Inverardi; Patrizio Pelliccione; Gian Luca Scoccia

