CS 584 – Machine Learning

Topic: Next

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What We Covered

- Concept learning
- Classifier evaluation
- Probability theory
- Decision trees
- Naïve Bayes
- Maximum likelihood and Bayesian estimation
- Logistic regression
- Neural networks
- Regression
- Bias vs variance trade-off
- Clustering
- Dimensionality reduction

Some Of The Other Topics

- Support vector machines
- Ensemble learning
- Reinforcement learning
- Theory of machine learning
- Ethics of ML

500+ AI/ML Courses At CS

- CS 512 – Computer vision
- CS 522 – Advanced data mining
- CSP 571 – Data preparation and analysis
- CS 577 – Deep learning
- CS 578 – Interactive and transparent ML
- CS 581 – Advanced AI
- CS 583 – Probabilistic graphical models
- CS 584 – Machine learning
- CS 585 – Natural language processing
- Full CS list: https://bulletin.iit.edu/courses/cs/

Some AI/ML Conferences

- International Conference on Machine Learning (ICML)
- Conference on Neural Information Processing Systems (NeurIPS)
- Conference on Learning Theory (COLT)
- AAAI Conference on Artificial Intelligence (AAAI)
- International Joint Conference on Artificial Intelligence (IJCAI)
- Knowledge Discovery and Data Mining (KDD)
- Conference on Computer Vision and Pattern Recognition (CVPR)
- Annual Meeting of the Association for Computational Linguistics (ACL)
- International Conference on Learning Representation (ICLR)

- Warning: there are many scam conferences

ICML 2022 CFP

- https://icml.cc/Conferences/2022/CallForPapers
- General Machine Learning (active learning, clustering, online learning, ranking, reinforcement learning, supervised, semi- and self-supervised learning, time series analysis, etc.)
- Deep Learning (architectures, generative models, deep reinforcement learning, etc.)
- Learning Theory (bandits, game theory, statistical learning theory, etc.)
- Optimization (convex and non-convex optimization, matrix/tensor methods, stochastic, online, non-smooth, composite, etc.)
- Probabilistic Inference (Bayesian methods, graphical models, Monte Carlo methods, etc.)
- Trustworthy Machine Learning (accountability, causality, fairness, privacy, robustness, etc.)
- Applications (computational biology, crowdsourcing, healthcare, neuroscience, social good, climate science, etc.)

NeurIPS 2022 CFP

- https://neurips.cc/Conferences/2022/CallForPapers
- General Machine Learning
- Deep Learning (e.g., architectures, generative models, optimization for deep networks)
- Reinforcement Learning (e.g., decision and control, planning, hierarchical RL, robotics)
- Applications (e.g., speech processing, computer vision, NLP)
- Machine Learning for Sciences (e.g. biology, physics, health sciences, social sciences)
- Probabilistic Methods (e.g., variational inference, causal inference, Gaussian processes)
- Optimization (e.g., convex and non-convex optimization)
- Neuroscience and Cognitive Science (e.g., neural coding, brain-computer interfaces)
- Theory (e.g., control theory, learning theory, algorithmic game theory)
- Infrastructure (e.g., datasets, competitions, implementations, libraries)
- Social Aspects of Machine Learning (e.g., AI safety, fairness, privacy, interpretability, human-AI interaction, ethics)

COLT 2022 CFP

- http://learningtheory.org/colt2022/cfp.html
- Design and analysis of learning algorithms
- Statistical and computational complexity of learning
- Optimization methods for learning, including online and stochastic optimization
- Theory of artificial neural networks, including deep learning
- Theoretical explanation of empirical phenomena in learning
- Supervised learning
- Unsupervised, semi-supervised learning, domain adaptation
- Learning geometric and topological structures in data, manifold learning
- Active and interactive learning
- Reinforcement learning
- Online learning and decision-making
- Interactions of learning theory with other mathematical fields
- High-dimensional and non-parametric statistics
- Kernel methods
- Causality
- Theoretical analysis of probabilistic graphical models
- Bayesian methods in learning
- Game theory and learning
- Learning with system constraints (e.g., privacy, fairness, memory, communication)
- Learning from complex data (e.g., networks, time series)
- Learning in neuroscience, social science, economics and other subjects

ICLR 2023 CFP

- https://iclr.cc/Conferences/2023/CallForPapers
- unsupervised, semi-supervised, and supervised representation learning
- representation learning for planning and reinforcement learning
- representation learning for computer vision and natural language processing
- metric learning and kernel learning
- sparse coding and dimensionality expansion
- hierarchical models
- optimization for representation learning
- learning representations of outputs or states
- optimal transport
- theoretical issues in deep learning
- societal considerations of representation learning including fairness, safety, privacy, and interpretability, and explainability
- visualization or interpretation of learned representations
- implementation issues, parallelization, software platforms, hardware
- climate, sustainability
- applications in audio, speech, robotics, neuroscience, biology, or any other field

Other CFP Of Possible Interest

- CVPR: https://cvpr.thecvf.com/Conferences/2023/CallForPapers
- ACL: https://www.2022.aclweb.org/callpapers
- ACM FAccT: https://facctconference.org/2023/cfp.html
- KDD: https://www.kdd.org/kdd2022/cfpResearch.html