

## Asian Universities Alliance Postgraduate Academic Forum

### Keywords and Subtopics

#### Machine Learning and Applications

Active Learning  
Classification  
Clustering  
Cost-Sensitive Learning  
Data Mining  
Deep Learning  
Developmental Learning  
Dimensionality Reduction and Manifold Learning  
Ensemble Methods  
Experimental Methodology/Replicability  
Feature Selection / Learning Sparse Models  
Interpretability  
Kernel Methods  
Knowledge-based Learning  
Learning Generative Models  
Learning Graphical Models  
Learning Preferences or Rankings  
Learning Theory  
Machine Learning  
Multi-instance/Multi-label/Multi-view learning  
Neural Networks  
New Problems  
Online Learning  
Probabilistic Machine Learning  
Recommender Systems  
Reinforcement Learning  
Relational Learning  
Semi-Supervised Learning  
Structured Prediction  
Time-series/Data Streams  
Transfer, Adaptation, Multi-task Learning  
Unsupervised Learning  
Big data/Scalability  
Bio/Medicine  
Environmental

Game Playing  
Humanities  
Networks  
Other Applications

### **Computer Vision**

2D and 3D Computer Vision  
Action Recognition  
Big Data and Large Scale Methods  
Biomedical Image Understanding  
Biometrics, Face and Gesture Recognition  
Computational Photography, Photometry, Shape from X  
Computer Vision  
Language and Vision  
Motion and Tracking  
Perception  
Recognition: Detection, Categorization, Indexing, Matching, Retrieval, Semantic Interpretation  
Statistical Methods and Machine Learning  
Structural and Model-Based Approaches, Knowledge Representation and Reasoning  
Video: Events, Activities and Surveillance

### **Natural Language Processing**

Coreference Resolution  
Dialogue  
Discourse  
Embeddings  
Information Extraction  
Information Retrieval  
Knowledge Extraction  
Machine Translation  
Named Entities  
Natural Language Generation  
Natural Language Processing  
Natural Language Semantics  
Natural Language Summarization  
NLP Applications and Tools  
Phonology, Morphology, and word segmentation  
Psycholinguistics  
Question Answering  
Resources and Evaluation  
Sentiment Analysis and Text Mining  
Speech

Tagging, chunking, and parsing  
Text Classification

### **Agent-based and Multi-agent Systems**

Agent-Based Simulation and Emergence  
Agent Communication  
Agent Societies  
Agent Theories and Models  
Agreement Technologies  
Algorithmic Game Theory  
Computational Social Choice  
Cooperative Games  
Coordination and Cooperation  
Economic Paradigms, Auctions and Market-Based Systems  
Engineering Methods, Platforms, Languages and Tools  
Formal Verification, Validation and Synthesis  
Multi-agent Learning  
Multi-agent Planning  
Non-cooperative Games  
Normative systems  
Resource Allocation  
Trust and Reputation  
Voting

### **Constraints and Satisfication**

Constraint Optimization  
Constraints and Data Mining / Machine Learning  
Constraints and Satisfication  
Constraints: Applications  
Constraints: Evaluation and Analysis  
Constraints: Solvers and Tools  
Distributed Constraints  
Dynamic Programming  
Global Constraints  
Other approaches

### **Heuristic Search and Game Playing**

Combinatorial Search and Optimization  
Distributed Search  
Evaluation and Analysis  
Game Playing

General Game Playing and General Video Game Playing  
Heuristic Search  
Meta-Reasoning and Meta-heuristics Modelling

### **Humans and AI**

Brain Sciences  
Cognitive Modelling  
Cognitive Systems  
Computer-Aided Education  
Ethical Issues in AI  
Human-AI Collaboration  
Human Computation and Crowdsourcing  
Human-Computer Interaction  
Intelligent User Interfaces  
Personalization and User Modelling

### **Knowledge Representation and Reasoning**

Action, Change and Causality  
Automated Reasoning and Theorem Proving  
Belief Change  
Case-based reasoning  
Common-Sense Reasoning  
Computational Complexity of Reasoning  
Computational Models of Argument  
Description Logics and Ontologies  
Diagnosis and Abductive Reasoning  
Geometric, Spatial, and Temporal Reasoning  
Information Fusion  
Knowledge Representation  
Logics for Knowledge Representation  
Non-classical Logics for Knowledge Representation  
Non-monotonic Reasoning  
Preference Modelling and Preference-Based Reasoning  
Qualitative Reasoning  
Reasoning about Knowledge and Belief  
Tractable Languages and Knowledge compilation

### **Multidisciplinary Topics and Applications**

AI and the Web  
Art and Music  
Autonomic Computing  
Biology and Medicine

Computational Sustainability  
Computer Games  
Databases  
Finance  
Information Retrieval  
Intelligent Database Systems  
Interactive Entertainment  
Knowledge-based Software Engineering  
Multidisciplinary Topics and Applications  
Natural Sciences  
Philosophical and Ethical Issues  
Real-Time Systems  
Recommender Systems  
Security and Privacy  
Social Sciences  
Ubiquitous Computing Systems  
Validation and Verification

### **Planning and Scheduling**

Activity and Plan Recognition  
Applications of Planning  
Conformant/Contingent Planning  
Distributed/Multi-agent Planning  
Hierarchical Planning  
Markov Decisions Processes  
Model-Based Reasoning  
Other approaches to planning  
Planning Algorithms  
Planning and Scheduling  
Planning under Uncertainty  
Planning with Incomplete information  
POMDPs  
Real-time Planning  
Robot Planning  
Scheduling  
Search in Planning and Scheduling  
Temporal and Hybrid planning  
Theoretical Foundations of Planning

### **Robotics**

Behaviour and Control  
Cognitive Robotics

Dependable Robots  
Developmental Robotics  
Ethical, Legal, Societal Issues in Robotics  
Human Robot Interaction  
Learning in Robotics  
Localization, Mapping, State Estimation  
Manipulation  
Motion and Path Planning  
Multi-Robot Systems  
Robotics  
Sensor Networks  
Social Robots  
Vision and Perception

**Uncertainty in AI**

Approximate Probabilistic Inference  
Bayesian Networks  
Decision/Utility Theory  
Exact Probabilistic Inference  
Graphical Models  
Markov Decision Processes  
Non-probabilistic Models  
Relational Inference  
Sequential Decision Making  
Uncertainty in AI  
Uncertainty Representations