Institute	Group	Seminar	Project	Thesis	Category	Supervisor	Topic	More Info	Interested Students	Assigned Students
CP	all		x	x	all	all	https://www.jku.at/en/institute-of-computational-perception/teaching/theses-and-projects/			
CP	MMS/HCAI		x	x	RecSys / Data Science	MS	Investigate the influence of differential privacy on accuracy and beyond-accuracy aspects of state-of-the-art recommendation a	Fix personal meeting.		
CP	MMS/HCAI		x	x	RecSys / Data Science	MS	Investigate popularity miscalibration/bias in commercial music recommender systems	Fix personal meeting.		
CP	MMS/HCAI		x	x	RecSys / Data Science	OL/MS	Investigate popularity bias in commercial (music) recommender systems	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys / Data Science	MS	Investigate popularity bias in content-based (music) IR or RecSys	Fix personal meeting.		
CP	MMS/HCAI		x	x	RecSys / Data Science	MS	Investigate carbon footprint of RecSys algorithms	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys / Data Science	MS	Adapting models for cognitive biases for recommendation systems	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	ML	MS	Extracting music listening intents/purposes from music-related and behavioral data	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	ML	MS	Classification of LLM- vs. human-generated text	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	Data Science / NLP	MS	Identifying, investigating, and mitigating stereotypical answers of common LLMs/GLaMs	Fix personal meeting.		
CP	MMS/HCAI		x	x	Data Science	MS	Analysis of gender and country bias in research papers	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys	DK/MS	LLM-based recommender systems	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	ML	Sh/MS	Concept Control in LLMs	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	ML	Sh/MS	Debiasing NLP models with augmentation	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys	MS	Psychology-informed recommender systems (cognition models, affect-aware, personality-aware systems)	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys	MS	Recommender systems based on diffusion models	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys	MS	Adversarial training for unlearning protected user characteristics in DNN-based RecSys	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys	MS	Autoencoders for recommender systems	Fix personal meeting.		
CP	MMS/HCAI		x	x	RecSys / Data Science	OL/MS	Simulating the long-term impact of recommendation algorithms on recommendations	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys	MS	Explainability in Recommender systems	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys / ML	OL/MM/MS	In-processing (multi-objective) bias mitigation in Recommender Systems	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys / NLP	OL/GE/DK/MS	Conversational Recommender Systems (Design, Evaluation, Debiasing)	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	RecSys / Data Science	OL/MS	User studies on bias and fairness of recommender systems	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	NLP	DK/MS	Measuring and Mitigating Language-Specific Bias in Large Language Models	Fix personal meeting.		
CP	MMS/HCAI	x	x	x	NLP	DK/MS	Bias in Generative LLMs	Fix personal meeting.		
CP	MMS/HCAI		x	x	Multimedia	SN	Multimodal Learning System Robust to Missing Modalities	Please contact Shah Nawaz <usmangrewal@gmail.com>		
CP	MMS/HCAI	x	x	x	Multimedia	SN	Face-voice Association and Impact of Multiple Languages	Please contact Shah Nawaz <usmangrewal@gmail.com>		
CP	MMS/HCAI		x	x	Multimedia	SN	Single-branch Network for Multimodal Training	Please contact Shah Nawaz <usmangrewal@gmail.com>		
CP	MMS/HCAI	x	x	x	Multimedia	SN	Emotion Recognition in Speech using Cross-Modal Transfer in the Wild	Please contact Shah Nawaz <usmangrewal@gmail.com>		
CP	MMS/HCAI		x	x	Multimedia	SN	Multimodal Pre-train then Transfer Learning Approach	Please contact Shah Nawaz <usmangrewal@gmail.com>		
CP	MMS/HCAI		x	x	Image Processing	SAK	Model Inversion and Poisoning Attacks for Medical Images	Please contact Sunder Ali Khowaja <sunder.ali@ieee.org>		
CP	MMS/HCAI		x	x	Image Processing	SAK	Atmospheric Turbulence Mitigation from Images	Please contact Sunder Ali Khowaja <sunder.ali@ieee.org>		
CP	MMS/HCAI		x	x	Image Processing	SAK	Image Restoration from Thermal Images (Image Denoising, Image SuperResolution, Image DeRaining)	Please contact Sunder Ali Khowaja <sunder.ali@ieee.org>		
CP	MMS/HCAI		x	x	NLP / ML / Affective Computing	SAK	Using Emotional and Contextual encoders for depression detection from textual data	Please contact Sunder Ali Khowaja <sunder.ali@ieee.org>		
CP	MMS/HCAI		x	x	ML / Privacy	SAK	Zero-Trust Framework for Adversarial data rating system	Please contact Sunder Ali Khowaja <sunder.ali@ieee.org>		
CP	MMS/HCAI		x	x	NLP	RM	Multi-modal RAG: Intelligent modal switching/selection in the retrieval part of the RAG pipeline for multi-modal QnA			
CP	MMS/HCAI		x	x	NLP	RM	Interpretability/explainability in RAG			
CP	MMS/HCAI		x	x	NLP	RM	Ante-hoc controllable text summarization with multi-controllable attributes			
CP	MMS/HCAI		x	x	NLP	RM	LLM sensitization towards factual/faithful text generation			
CP	MMS/HCAI		x	x	NLP	RM	Multi-modal fact-verification in the healthcare/medical domain			
CP	MMS/HCAI		x	x	NLP	RM	Multi-Document Scientific Summarization			
CP	MMS/HCAI		x	x	NLP	RM	Context-driven dynamic decoding in open-ended text generation			
CP	MMS/HCAI		x	x	NLP	RM	RL policy-shaping for adequate beam size/sampling			
CP	MMS/HCAI		x	x	NLP	RM	A mixture of experts-based feature importance/ explainability in dense retrieval			
CP	CP	x	x	x	Deep Learning, Music Processing	JSr	Music audio similarity estimation with deep learning			
CP	CP	x	x	x	Deep Learning, Music Processing	JSr	Music audio segmentation with deep learning			
CP	CP	x	x	x	Deep Learning, Music Processing	JSr	Music audio tagging with deep learning			
CP	CP	x	x	x	Deep Learning, Music Processing	JSr	Music audio generation with deep learning			
CP	CP	x			Machine Listening	JSr	Acoustic scene classification			
CP	CP	x	x	x	Machine Listening	JSr	Birdcall classification			
CP	CP	x	x	x	Machine Listening	JSr	Spatial audio / Ambisonics: Sound event localization and detection			
CP	CP	x	x	x	Machine Listening	JSr	Multiple-Instance Learning / Weakly-Supervised Learning for machine listening			
CP	CP	x			Machine Listening	KH	Adversarial Examples for Speech Recognition / Audio / MIR			
CP	CP	x			Machine Listening	KH	Explainability of Machine Listening Models			
CP	CP	x	x	x	Machine Listening	JSr	Learnable alternatives to spectrograms (e.g., SincNet, LEAF)			
CP	CP	x	x	x	Machine Listening	JSr	Denoising audio recordings			
CP	CP	x			Deep Learning	VPy	Concept-Based Explanations			
CP	CP		x		Deep Learning	VPy	Network Dissection: Quantifying Interpretability of Deep Visual Representations			
CP	CP	x			Deep Learning	KH	Evaluating Interpretability Methods			
CP	CP	x			Deep Learning	KH	Adversarial Robustness			
CP	CP	x			Deep Learning	KH	Counterfactual Explanations			
CP	CP	x	x	x	Machine Listening	FS	Efficient Deep Learning for Audio Classification			
CP	CP	x	x	x	Machine Listening	FS	Low-complexity Acoustic Scene Classification	https://dcase.community/challenge2023/task-low-complexity-acoustic-scene-classification		
CP	CP	x	x	x	Machine Listening	FS	Data-efficient Acoustic Scene Classification			
CP	CP	x	x	x	Machine Listening	PP	Singing Voice / Speech Deepfakes			
CP	CP	x	x	x	Machine Listening	PP	Singing Voice / Speech Deepfake Detection	https://singfake.org/		
CP	CP	x	x	x	Machine Listening	PP	Large Audio-Language Models (e.g., for Audio Question Answering)	https://arxiv.org/pdf/2305.10790.pdf; https://arxiv.org/abs/2305.11834		
CP	CP	x	x	x	Machine Listening	PP	Language-Based Audio Retrieval	https://dcase.community/challenge2022/task-language-based-audio-retrieval		
CP	CP		x	x	Symbolic Music Processing	EK	Negative harmony generator with pitch constraints			
CP	CP	x	x	x	Symbolic Music Processing	EK	Derivation system for symbolic music towards music generation			
CP	CP		x	x	Symbolic Music Processing	EK	Microtonal toroidal Tonnetz spaces			
CP	CP	x	x	x	Symbolic Music Processing	EK	Applications of Tonnetz representations in computational music analysis			
CP	CP	x	x	x	Graph Neural Networks	EK	Sampling Strategies in Large Graphs			
CP	CP	x	x	x	Graph Neural Networks	EK	Hierarchical Graph Neural Networks			
CP	CP	x	x	x	Graph Neural Networks	EK	Hyperbolic Graph Neural Networks			
CP	CP	x	x	x	Graph Neural Networks	EK	Graph Neural Networks for music Analysis			
CP	CP	x	x	x	Graph Neural Networks	EK	Graph Neural Networks for music Generation			
CP	CP	x	x	x	Graph Neural Networks	EK	Graph Neural Networks for Recommendation			
CP	CP	x	x	x	Graph Neural Networks	EK	Hybrid Graph Models			
CP	CP	x	x	x	Graph Neural Networks	EK	Relational Graph Learning			
CP	CP	x	x	x	Symbolic Music Processing	EK	Score Formatting and Scorification (i.e. MIDI to Score)			
CP	CP	x	x	x	Symbolic Music Processing	EK	Symbolic Music Boundary Detection / Segmentation			
CP	CP		x	x	Symbolic Music Processing	FF	Parametrizable Jazz accompaniment generation			
CP	CP		x	x	Symbolic Music Processing	FF	Computing and displaying differences of musical scores			
CP	CP	x	x	x	Deep Learning	FF	Knowledge Distillation			
CP	CP	x	x	x	Machine Listening, Symbolic Music Processing	FF	Chord / Harmony Recognition			
CP	CP	x	x	x	NLP, Symbolic Music Processing	FF	Deep learning approaches to add structure/hierarchical information to data sequences			
CP	CP	x	x	x	Machine Listening	FF	Deep learning for jazz dataset annotation			
CP	CP	x	x	x	Music Processing	SP	Musical score to performance alignment			
CP	CP	x	x	x	Deep Learning, Music Processing	SP	(text, pose, dance, video)-guided music generation with DL			
CP	CP	x	x	x	Deep Learning, Music Processing	SP	Music generation with DL			
CP	CP	x	x	x	Symbolic Music Processing, Deep Learning	SP	Symbolic (Midi / Pianoroll / Token) music generation with DL			
CP	CP		x	x	Symbolic Music Processing/Reinforcement Learning	CC	Real time symbolic music alignment with deep reinforcement learning			
CP	CP	x	x	x	Machine Listening, Symbolic Music Processing	CC	Automatic Music Accompaniment Systems			
CP	CP	x	x	x	Machine Listening, Symbolic Music Processing	CC	Automatic Piano Transcription			
CP	CP	x	x	x	Computer Vision, Machine Listening	CC	Automatic Pose Estimation with Deep Learning (Markerless Motion Capture)			
CP	CP	x	x	x	Symbolic Music Processing	CC	Deep learning models of expressive piano performance			
CP	CP	x	x	x	Symbolic Music Processing/Deep Learning	CC	Discrete Encodings for Tokenizing Symbolic Music			
CP	CP		x	x	Symbolic Music Processing/Reinforcement Learning	CC	Beat and Tempo Tracking from MIDI with (deep) reinforcement learning			
CP	CP	x	x	x	Symbolic Music Processing	CC	Symbolic Music Segmentation using (deep) models of musical expectation			
CP	CP	x	x	x	Symbolic Music Processing/Computer Vision	CC	Automatic Film Scoring			
CP	CP	x	x	x	Symbolic Music Processing	CC	Musical Expectation/Information Dynamics of Music (IDyOM)			
CP	CP	?	x	x	Cryptography	JS	Quantum Resistant Cryptography			
CP	CP	?	x	x	Cryptography	JS	Password-strength Evaluation			
CP	CP	?	x	x	Computer Vision	JS	Deep Simultaneous Localization And Mapping			
CP	CP	x	x	x	Symbolic Music Processing / Deep Learning	PH	(Controllable) expressive performance generation			
CP	CP	x	x	x	Deep Learning / Signal Processing / Symbolic Music Process	PH	Automatic Piano Transcription : robustness of SOTA models			
CP	CP	x	x	x	Symbolic Music Processing / Deep Learning	PH	(Generative / deductive) computational modeling of expressive performances			
CP	CP	x	x	x	Deep Learning, Music Processing	MB	Evaluation of deep audio representations for music			
CP	CP	x	x	x	Deep Learning, Music Processing	MB	Quantitative metrics for generated music			
CP	CP	x	x	x	Deep Learning, Music Processing	MB	Controllability in music generation systems			