

# 修士論文題目一覧/List of Master's Thesis

2024年3月修了生/March 2024 Graduates

## 情報アーキテクチャ分野/Information Architecture

研究室/Laboratory	論文タイトル/Title
藤村 Fujimura	Multi-modal and Multi-objective Cold Chain Logistic Optimization using Improved NSGA-II Algorithm
	SDN-based network routing optimization for online gaming using genetic algorithm
	ドローンによるRGB画像を利用したキャベツの検出と成長分析 Cabbage Detection and Growth Analysis using RGB Images Captured by Unmanned Aerial Vehicle
	Deep Learning-based Quantification of Cabbage Crop Damage using Unmanned Aerial Vehicle
	Assembly Line Balancing Scheduling for Human Robot Collaboration: A Step Towards Industry 5.0
古月 Furuzuki	Generating Promising Geometry for Few-shot Neural Radiance Fields
	Improving Crowded Object Detection with DCNv2 by Multi-stream Attention Mechanism
	A Study of Optimizing YOLO Model for Small Object Detection
	A Pokemon Battle Evaluator System Based on Monte-Carlo Tree Search and Double-Oracle Algorithm
岩井原 Iwaihara	Author Verification Based on Dense Document Representation and Capsule Network
	A Study on Explainability of Large Language Models over Sentiment Analysis Thorough Instabilities on Prompting Texts
	Enhancing Emotion Classification on GoEmotions Dataset through Data Augmentation with Large language Model
	Empowering Zero-Shot Extreme Multi-Label Text Classification via Weighted Contrastive Learning and Semantic Label Augmentation
鎌田 Kamata	Brain Age Gap Estimation Using 3D-MRI Local Graph Features 3D-MRI局所グラフ特徴を用いた脳年齢差推定
	Epithelial Nuclei Image Segmentation and Classification Using Transformer Feature Grouping
	Pyramid-Structured Feature Fusion Networks for Depth Estimation in Monocular Colonoscopy
	Multiscale Superpixel HGCN With Attention-Guided CNN for Semi-Supervised Hyperspectral Image Classification
ルパージュ Lepage	Transformer-based Hierarchical Attention Models for Solving Analogies Between Longer and Semantically Richer Sentences
	Compositional augmentation policy using different formulas for the notion of middle sentence for low resource machine translation
伍 Wu	Machine Learning and Econometric Model Empowered Fiat-settled Cryptocurrency Price Prediction
	Sound-LDR Sensors based True Random Number Generator and Its Novel Applications
	Interactive Heat Quantitative Modeling and Privacy Preserving for Social Media
	Decentralized Federated Meta-Learning based Few Samples Intrusion Detection for IoT with with Reconciled Privacy and Utility
	Dynamic Trust Management with Robust Consensus Optimization for Blockchain
吉江 Yoshie	PerMix: A Dynamic Augmentation Strategy for Point Clouds under Limited Data
	Enhancing Knowledge Graph Completion through Rich Semantic Relation Embedding with RotatE and Clustering
	Temporal-Selective Guidance for Semi-Supervised LiDAR Semantic Segmentation
	Efficient Adaptation of Segment Anything via Learnable Mutimask Fusion and Low-Rank Adaptation
	Masked Language Model Learning with Transformers for Dynamic News Webpage Classification
	MAKD: Enhancing Learning Efficiency in Lightweight Models under Moderate-Sample Classification Scenarios
	Steering Angle Prediction for Autonomous Vehicles via Multi-feature Fusion
	拡張現実感を利用した空間プログラミングのための基礎研究～ロボットナビゲーションを対象として Fundamental study on spatial programming using augmented reality - Focusing on robot navigation

生産システム分野/Production Systems

研究室/Laboratory	論文タイトル/Title
橋本 Hashimoto	Data Augmentation for SentRev Using Back-Translation of Lexical Bundle
	生成モデルを用いた限られた受信電波強度データの拡張と屋内位置推定精度の向上 Improving Indoor Localization Accuracy by Augmenting Limited RSSI Data Using Generative Model
犬石 Inuishi	Novel Complementary RC-IGBT on SOI with thyristor operation
	Trench type complementary RC-IGBT on SOI with floating ohmic metal for emitter follower type inverter
李 Lee	Fast Path Planning using Direct RRT* Sampling based on Modified Segmentation Transformer
	TRACE : Integrating Transformer and CNN Encoder for Multi-Goal Path Finding
三宅 Miyake	Capacitive Biosensor Using Wrinkled Au Film for Intraocular Pressure Monitoring
	針型バイオセンサによる生育植物の糖モニタリングに関する研究 Research on Sugar Monitoring in Growing Plants Using a Needle-type Biosensor
	Multi-electrode electroretinography using soft, transparent, hybrid gold/conductive polymers on contact lenses
高橋 Takahashi	Quantitative analysis of differential expression of ROS-related genes in HeLa cells induced by radiotherapy
	Research on the effect of genistein on curcumin mediated PDT to HeLa cells
	HT-29 細胞のミトコンドリア機能に着目した、光増感剤 5-Amino Levulinic Acid(5-ALA), クロリン e6(Ce6), レザフィリンの放射線増感能の評価 Evaluation of the radiosensitizing effect of photosensitizers 5-Amino Levulinic Acid (5-ALA), chlorin e6 (Ce6), and laserphyrin, focusing on the mitochondrial function of HT-29 cells.
	Genomic DNA qPCR analysis to assess the amount of human and mouse tissue present in tumor xenografts

集積システム分野/Integrated Systems

研究室/Laboratory	論文タイトル/Title
池永 Ikenaga	Structure-Aware Modulation and HDR-Guided Skip Connection with Overexposed Perceptual Loss for Single Image HDR Reconstruction
	Multi-Level Spatial-Temporal Merging and Selectively Dense Residual Propagation for HDR Video Reconstruction
牧野 Makino	A Computationally Efficient Semi-Blind Source Separation Approach for Nonlinear Echo Cancellation Based on an Element-Wise Iterative Source Steering
篠原 Shinohara	Randomness Enhancement in a Single-Inverter-Based True Random Number Generator via Capacitance Trimming for Mismatch Compensation
	Blockchain Based IC Traceability Using Strong PUF
吉増 Yoshimasu	適応型バイアス回路を用いた100 GHz帯InP HBT電力増幅器の研究 Study on 100-GHz-Band Power Amplifier with Adaptive Bias Circuit in InP HBT
高畑 Takahata	Design of a photonic product-sum circuit with binary output signal based on micro-ring modulators.