

情報アーキテクチャ分野

研究室	修士論文タイトル
藤村	Research and Application of Chinese Medical Question Answering System based on RoBERTa and Knowledge Graph
藤村	Forecasting of sensor data in chemical factory by Transformer-based model
藤村	Preprocessed CSI-Enhanced Human Detection via PNN on Raspberry Pi
藤村	Research on Flexible Job Shop Scheduling Problem based on Multi-Agent System
藤村	A Method of Malicious Transaction Detection for Cryptocurrency Based on SA-XGBoost Algorithm
藤村	Chinese style clothing design assistant system based on fine-tuned diffusion models
藤村	Object Detection for Fruit Volume Estimation of Cabbage by UAV-Based Images
藤村	Data-driven Optimization for Energy-Saving Scheduling Problem with Decision Awareness
藤村	Improved LSTM-based DRL approach for Dynamic Job-Shop Scheduling Problem
藤村	A Memetic Algorithm for Multimodal Edge Server Placement
藤村	ADMM-based Distributed Algorithm for Energy Management in Multi-microgrid System
古月	Mask-wearing compliance detection based on improved YOLOv5
古月	Improving Bug Localization with GGNN and Cross Attention Mechanism
古月	A Study of Collaborative Filtering Recommender System Based on Graph Neural Networks
古月	A Study of Graph Neural Network Based Recommendation System with Global Search
古月	Multi-scale Detection with Attention Mechanism for High-resolution Images
古月	An Improved CenterNet for Oriented Face Detection
岩井原	Alignment of Wikipedia Categories and Lists with DBpedia Ontology: Leveraging Semantic, Lexical, and Hierarchical Features
岩井原	Fine-Grained Column Type Annotation Using Multiple Knowledge Graphs
岩井原	LG-XMC: Semantic-Guided Label Generation for Extreme Multi-Label Classification using Generative Models
岩井原	Enhancing Keyphrase Generation by BART Finetuning with Splitting and Shuffling
岩井原	Efficient Summarization of Long Documents Using Hybrid Extractive-Abstractive Method
岩井原	Author Attribution Based on POS Sensitivity Analysis and Improved Multi-Layer Capsule Networks over Pre-Trained Language Models
岩井原	Detection of Emotion-Related Passages in GoEmotions Dataset for Fine-Grained Emotions
岩井原	Composite Retrieval with Indirect Linker for Hybrid Open Domain Question Answering
岩井原	Soft and Hard Prompting for Document Classification with Only Label Names
鎌田	Skin Lesion Classification Based on Involution Neural Networks With Triplet++ Attention Generator
鎌田	ADHD Classification Based on fMRI Spatial-Temporal Features Using Multifractal Dimensions
鎌田	DMN Brain Connectivity-Based Hypergraph Convolution Networks with Attention for AD/MCI Classification
鎌田	Mask Refined Deep Fusion Network With Dynamic Memory for Robust RGBT Visual Tracking
鎌田	Lossy Image Compression Based on Multi-Scan Fusion Strategy
鎌田	Visual Question Answering Based on MRF Hypergraph Transformer
ルパージュ	Data Augmentation for English-Japanese Neural Machine Translation Via Middle Sentence Generation
ルパージュ	Example-Based Machine Translation with a Multi-Sentence Construction Transformer Architecture
ルパージュ	Data augmentation for machine translation using the notion of middle sentences
ルパージュ	Improving sentence embedding quality with sentence relationships from word analogies
ルパージュ	A Dual Reinforcement Method for Data Augmentation using Middle Sentences for Machine Translation
ルパージュ	An embedding-to-embedding method based on an autoencoder architecture for solving sentence analogies
ルパージュ	Generating synthetic bitext by predicting the sentence related to two other sentences
ルパージュ	Batch Mixup Data Augmentation for Neural Machine Translation

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松丸	Atrous Convolution と Feature Pyramid Network に基づくステレオ マッチング ネットワーク.
松丸	トランスフォーマーに基づくエンドツーエンドのエアライティング認識方法.
松丸	トランスフォーマーを使用したクラスター化された手のキーポイント検出ベースの文レベル手話認識.
坪川	Study on optical fiber probe configuration for non-contact angle measurement
坪川	Study on SPP refractive index sensor for high altitude meteorological detection
坪川	Study on nanoparticle transport in a bowtie fiber by controlling optical wavelength
坪川	Bidirectional transport of nanoparticles by micro capillaries with bowtie cores
坪川	Optical trapping force and torque on dielectric helical particles in Gaussian profile optical tweezers
伍	Privacy Enhanced Zero-Trust Defense against Poisoning Attack in Swarm Learning
伍	Federated Learning based Context Aware Selective Differential Privacy and Its Application
伍	Blockchain and Homomorphic Encryption Empowered Secure Knowledge Graph Trading
伍	Collaborative-Filtering Privacy-Preserving Edge Computation Offloading for Internet of Vehicles
伍	Sensitive Image Data Privacy Preserving for Selective Directional Regions
伍	Blockchain and NFT Empowered Cross-Trading Artificial Intelligence Model Copyright Protection
伍	Digital Twin based Safety Fuzzing Test Approach for Autonomous Vehicles
伍	GPU-CPU Accelerated Efficient Wireless Federated Learning with Embedding LDPC Coding
伍	Privacy Enhanced Decentralized Federated Learning for GNN-based Molecule Drug Discovery
吉江	Text-to-image generation algorithm based on nested supervised Generative Adversarial Network
吉江	Solving Garbage Occlusion in Classification with Self-Constructing Database: YOLOv7 and Attention Mechanism
吉江	Efficient Single-Image Super-Resolution Reconstruction Algorithm Based on Transformer and MobileNet Hybrid Model
吉江	Mask Based Image Composition using Denoising Diffusion Model
吉江	Semi-Supervised Few-Shot Learning for Photo Enhancement: An Illumination Estimation Approach Using Color Histograms
吉江	Unified Approach for Semantic Segmentation, Instance Segmentation and Orientation Estimation on RGB-D Indoor Scenes
吉江	Research on Target Following and Crowd Navigation for Robot based on Relational Graph Learning
吉江	Research on image defogging method and application in traffic object detection
吉江	Camouflaged object segmentation based on distracted mining and boundary information
吉江	ESNet: Edge-Supervised Convolutional Neural Network for RGB-D Salient Object Detection

生産システム分野	
研究室	修士論文タイトル
犬石	Design and analysis of new complementary lateral SOI RC-IGBT with simple procee
犬石	Novel frontside and backside design of snapback free N-channel vertical Trench type RC-IGBT
犬石	Design of lateral complementary trench type IGBT on SOI with simple process by new RESURF structure
犬石	New structure design of lateral complementary RC-IGBT on bulk Si for high voltage ICs
李	SRN: Multi-Target Path Planning Algorithm based on Multi-Task Neural Networks
李	Optimal Servo Decoupling Control with Kalman Filter for Binary Power Plant
李	Improved Self-Learning Cubature Kalman Filter Algorithm
李	Improved YOLO-Based Traffic Flow Monitoring Framework and Optimization of Traffic Signal Control
李	Satellite Image-Based Ship Detection, Map Modeling and Navigation for Unmanned Ships
李	Improved Jump Point Search Algorithm for AGV in Partially Known Environment
李	Financial Time Series Forecasting based on ARMA-LSTM and Multi-Modality Transformer Model
三宅	Parity-time-symmetric wireless power transfer system for smart contact lenses
三宅	Enzymatic power generation on an electric face mask and its application to bacterial sterilization
三宅	Efficient interfacing of electropolymerized PEDOT-redox polymer electrodes with microbial biocatalysts
三宅	Wearable, stretchable, wireless strain sensors for intraocular pressure measurement
三宅	Real-time and electrochemical detection of inflammation-related biomarker
三宅	Electromagnetic control of macromolecule delivery into adhesive cells through nanotube membranes
高橋	Research on the radiosensitivity of cordycepin to HT-29 colorectal cancer cells
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高橋	Study of the vascular protective effect of 5-ALA as a radioprotective agent
高橋	Effect of Combination of Photodynamic Therapy and Radiation at Different Dose-rates on Colon Cancer Cell Line
高橋	電離放射線とクルクミン光線力学療法による子宮頸がんHeLa-luc細胞の治療効果の評価
高橋	Comparison of Gene Expression between Proton Beam and X-ray for Cancers and Relative further analysis
高橋	Research on radio-sensitization effect and potential PDT-sensitization effect of evodiamine against melanoma and breast cancer
高橋	Quantitative analysis of gene sequence of human and mouse syngeneic tumor cells co-cultured at different concentrations
田中(英)	Development of a 3-DOF Kinematic-Biological Matched Hip Joint Structure for Lower Limb Exoskeleton
田中(英)	Development of a Walking Assistance System Considering the Use of Mixed Reality
田中(英)	Trajectory Training with MediaPipe-based Single Camera Motion Capture System
田中(英)	Development of a Passive Assistive suit that Interlocks the Knees, Back, and Arms with a belt
田中(英)	A 3D-Printed Crawler Type Colonoscopy Device by Using a Soft Gear Transmission System
立野	GPT-2によるコーパス拡張に基づく在日留学生支援FAQ チャットボットシステムの開発
立野	RGB-D Image based 3D SLAM using Direct Sparse Odometry Lite
立野	敵対的生成ネットワークによるデータ拡張を用いた屋内位置推定
立野	Dual-Frequency Fusion for Improved Indoor Positioning Using WiFi 2.4GHz and 5GHz

集積システム分野	
研究室	修士論文タイトル
池橋	A MEMS Soft Stopper based on Constant-Force Spring
池橋	Suppression of Thermoelastic Damping in MEMS Resonators Using a Virtual Spring and its Structural Dependence
池橋	A MEMS Charge Pump with Junction-FET for Vibration Energy Harvester
池橋	A Vertical Mode MEMS Gravimeter with Earth Gravity Cancellation Mechanism
池永	History Guided Pyramid Spatial-Temporal Neural Network with Displacement Based Refinement for Head Pose Prediction
池永	Window Shifted Big Kernel Depthwise Attention based Low-complexity MobileViT
池永	Intra-Frame Skeleton Constraints Modeling and Grouping Based Stacked Residual Graph Convolution Network for 3D Human Motion Prediction
池永	Scan and Inheritance Architecture with Top and Bottom Apex Detection for High Frame Rate and Ultra-low Delay Corner Detection
池永	ROI-Extraction and Pipelined Observation Based Particle Filter for High Frame Rate and Ultra-low Delay Multiple Object Tracking
池永	Progressive Spatial Weighting and Temporal Aggregation Based Multi-Stage Regression for Video-Based Head Pose Estimation
碓塚	Topological photonic crystal optical isolators on III-V/Si platform
碓塚	Plasmon-enhanced waveguide-type InGaAs-based uni-traveling-carrier photodiodes
碓塚	Frequency-chirp controlled directly modulated membrane lasers
碓塚	Ge/Si avalanche photodiodes with dual multiplication layers for sub-terahertz wave generation systems
碓塚	Narrow linewidth wire-like active region membrane distributed reflector lasers with detuned loading effect
碓塚	Single-photodiode image classification systems with random speckle pattern generation in a silicon multi-mode waveguide
碓塚	Modulation-efficiency-enhanced membrane electro-absorption modulators with tensile-strained InGaAsP quantum wells
木村	An 8-point Approximate DCT Design with Optimized Signed Digit Encoding
木村	Prime Factorization Based on Multiple Quantum Annealings on Partial Constraints with Analytical Variable Reduction
木村	Design and Combination of Efficient 4-2 Approximate Compressors for Low-Power Multipliers
木村	Approximate Multiplier Based on Novel 4:2 and 5:2 Compressors
木村	Accuracy Improvement of Logarithmic Multipliers Based on Three-segment Linear Fitting
木村	Improved SAT-based Exact Synthesis of Onehot-Inverter Graphs Using Topology Information
木村	Approximate Multiplier Based on Positive and Negative Error Compensation Compressors
木村	A Hardware-Efficient Approximate Multiplier Combining Inexact Same-weight N:2 Compressors and Remapping Logic with Error Recovery
木村	Multi-size DCT Circuits Based on Approximate CSD Encoding
木村	Hardware-efficient Error Compensation Mechanisms for Approximate Logarithmic Multiplier
木村	An FPGA-based Accelerator for YOLOv4-tiny Object Detection with an Improved Loop Tiling Method

集積システム分野	
研究室	修士論文タイトル
牧野	Moving Blind Source Extraction in Reverberant Indoor Environments
牧野	Knowledge Distillation using Mask-based Relationship for Speech Enhancement Model with U-net Architectures
牧野	Investigating the Impact of Patching Methods on the Use of Transformer-based Image Classification Models for Audio Classification
牧野	Deep Complex-valued Neural Network-Based Beamforming for Multi-channel Speech Separation
大澤	Recovery of Accuracy Degradation due to Operational Amplifiers' Offset Voltages in Neural Network by Hardware-conscious Training Program
大澤	Linear and Read Disturb-free 6TSRAM Based Neural Network Applied to Handwritten Digit Recognition
大澤	Compensation Technique of Operational Amplifiers' Offset Voltages in Neural Network for Recovering Accuracy Degradation due to Threshold Voltage Fluctuation in MOSFETs
大澤	High Throughput Deep Neural Network Utilizing Floating Gate Transistors as Parameter Memory
大澤	Compensation Technique of Threshold Voltage Unbalance in Clamped Bit-Line Sense Amplifier for Improving High-Density STT-MRAM Chip Yield
大澤	Highly Stable 4-Level Quantized Neural Network Inference Accelerator Utilizing SRAM Cells as Weight Memory
大澤	Binarized Neural Network Inference Accelerator Using 6T SRAMs with Segmented Bit-Lines for Improving Linearity and Read Disturb
大澤	Circuit Techniques of Controlling Bit-Line Voltages for Achieving a 25.0 TOPS/W Binarized Neural Network with Pipeline Architecture
大澤	A Highly Energy Efficient Deep Neural Network Design Based on a Novel On-Bitline Current Subtraction Scheme
篠原	A Normalized Evidence Correlation Coefficient Method for Stochastic Computing of Extended Naive Bayesian Network
篠原	A Modeling Attack Resilient Sponge Structure Strong PUF with Scalable Challenge Response Pairs
篠原	Markov Chain based De-autocorrelation Circuits for Post-processing of True Random Number Generator
篠原	A Single-Inverter-based True Random Number Generator with Enhanced Random Noise by Damped Oscillation
篠原	A Correlation-Based Weighting Algorithm for Extended Naive Bayesian Inference
篠原	A Physically Unclonable Function Based on a 773F2 Bit Cell with Selectable Cascaded NMOS Pairs
高畑	Analysis of laser cleaning based on a fluid-flow model with plasma shielding effect and thermal radiation
高畑	Nonlinear-amplifying-loop-mirror-based mode-locked fiber laser with wide wavelength tuning range and high pulse energy
高畑	Design of a compact Mach-Zehnder modulator based on silicon topological photonic crystal
高畑	Silicon micro-ring modulator with lateral-zigzag interleaved PN-junction structure for high modulation efficiency
高畑	Modified Ge/Si surface-illuminated uni-travelling-carrier photodiode with photon-trapping micro-holes
高畑	Double-layer-graphene-based double-ring modulator for improvement in extinction ratio and modulation bandwidth
高畑	Avalanche photodiode with triple-mesa mushroom structure for reduction in edge electric field
吉増	DGS Based Slow-Wave Microstrip Transmission Line in a 45-nm CMOS SOI Technology
吉増	A 38-GHz Sub-harmonic Up-conversion Mixer with Post-distortion Harmonic Cancellation Technique and Adaptive Bias in 45-nm CMOS SOI
吉増	A 14 GHz-Band Ultra-Low-Power LC-VCO With Novel Feedback Circuit in 45-nm CMOS SOI
吉増	A 76-81 GHz High P1dB and Low Insertion Loss SPDT Switch in 45-nm CMOS SOI
吉増	A 38-GHz High Back-Off PAE Stacked-FET Power Amplifier With Adaptively Controlled Gate Capacitor in 45-nm CMOS SOI
吉増	A 22-29 GHz High Linearity Low Noise Amplifier With Adaptive Bias Circuit in 45-nm CMOS SOI
吉増	A 13-GHz Band Wideband LC-VCO With a Single Voltage-Controlled Novel Varactor in 45-nm CMOS SOI
吉増	A 38-GHz 4-Stacked FET Power Amplifier with Novel Phase Linearizer in 45-nm CMOS SOI