

TIMUR KHAIRULOV

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PUBLICATIONS

Journal Articles

1. ChainImputer: A Neural Network-Based Iterative Imputation Method Using Cumulative Features
MDPI Symmetry • 2025 • DOI: 10.3390/sym17060869

Conference Papers

1. Diffusion Model-Based Generative Pipeline for Children Song Video
IEEE International Conference on Consumer Electronics (ICCE) • 2025 • IEEE Xplore
2. Review of current approaches in the area of object detection for autonomous vehicles
Institute of Electronics and Information Engineers (IEIE) • 2024 • DBPIA

Under Review

1. Information-Theoretic Unsupervised Feature Selection for Constructing Taxonomy Tree
2. BAGen: Background Animation Generation for LLM-Generated Lyric Towards Children's Songs
3. Efficient Multi-Scale Network for Real-Time Crack Segmentation: Achieving High Accuracy-Speed Trade-off
4. Efficient Cheap All-Layer Aggregation Network for Time-Sensitive Time Series Classification

Theses

1. **Master's Thesis:** A Study on Maximizing Joint Entropy and Pattern Discrimination for Unsupervised Feature Selection • *Expected 2025*
2. **Bachelor's Thesis:** Recognition of road markings, signs and traffic lights using deep learning models • 2023

EDUCATION

- Chung-Ang University • MS in Artificial Intelligence • February 2024–Present
CAYSS scholarship recipient, GPA: 4.22 out of 4.5
 - Electrotechnical University "LETI" • BS in Computer Science • September 2018–July 2023
GPA: 4.3 out of 5
 - Inha University • Exchange Semester • August 2022–February 2023
GPA: 3.9 out of 4.5, Certificate
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EMPLOYMENT

- YADRO • C++ Software Developer LTE L1 • May 2023–February 2024
4G Base Station Development, used AVX and C++ for developing real-time modules
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TEACHING EXPERIENCE

- Chung-Ang University • Teaching Assistant, Computer Vision • Spring 2025
Prepared course materials including PowerPoint presentations, designed and graded examinations, evaluated student homework assignments
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PROJECTS

- BAGen: Automatic production and visualization of children songs
Python, PyTorch • January 2025
End-to-end generation of content for children with GUI and TUI support
 - Feature Selection experimental code
Matlab • August 2025
Collection of Unsupervised Feature Selection algorithms and experiments used in our recent publications
 - Prim's Algorithm Visualizer
C++, SFML, Make • April 2023
Interactive graph creation and Prim's algorithm visualization using computer graphics
 - Menu Management Application
Dart, Flutter, Firebase • January 2023
Cross-platform CRUD application for managing cafe menu prices, deployed via Firebase Hosting
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TECHNICAL SKILLS

- **Programming:** C/C++, Python, MATLAB, Dart, SQL
 - **Machine Learning:** PyTorch, Pandas, Scikit-learn, OpenCV
 - **Development:** Git, Linux, CMake, Docker, Qt, Flutter
 - **Languages:** English (B2 - TOEIC Certificate), Russian (Native), Korean (Basic)
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RESEARCH INTERESTS

- Reinforcement Learning
- Autonomous Systems
- Feature Selection and Information Theory
- Efficient Network design