

Song KANG

Curriculum Vitae

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EDUCATION

2020 – NOW **Undergraduate**
OUTSTANDING STUDENT SCHOLARSHIP(RANKING 4/223)
Department of Information Science and Technology
University of Science and Technology of China

Overall GPA: 3.62/4.30 **Ranking:** 25/92
Major: Electronic Engineering and Information Science
Selected Courses: Data Structure and Algorithm (90)
Probability Theory and Mathematical Statistics (93)
Signals and Systems (92)
Computer Network (91)
Digital Signal Processing (89)
Digital Logic Circuits (90)

RESEARCH

InfoNet: An Efficient Feed-Forward Neural Estimator for Mutual Information

We present InfoNet, a feed-forward neural estimator for mutual information that leverages the attention mechanism and the computational efficiency of deep learning infrastructures. By training InfoNet to maximize a dual formulation of mutual information via a feed-forward prediction, our approach circumvents the time-consuming test-time optimization and comes with the capability to avoid local minima in gradient descent.

I participate in the generation of the dataset. We estimate both the Shannon Mutual Information and the HGR Correlation Coefficient and I train the model for estimating the HGR Correlation Coefficient. Besides, I conduct the experiments with real data based on the HGR Correlation Coefficient.

Supervisor: Prof. Yanchao YANG @ HKU
A Summer Internship in University of Hong Kong

TEACHING ASSISTANT

2022 FALL **Digital Logic Circuits**
Lectured by Prof. Xiaowei QIN

This for second-year undergraduate students course includes logical algebra fundamentals, logic gates, combinational logic circuits, sequential logic circuits, pulse generation and shaping circuits, memories and programmable logic devices, analog / digital and digital / analog conversion, and a brief introduction to digital systems.

RESEARCH INTERESTS

Edge Computing and Edge AI
Wireless Communications
Mobile Communication Network Big Data and Data Modeling

SELECTED AWARDS

- 2023 **Outstanding Student Scholarship(Silver Award)**
University of Science and Technology of China
- 2022 **Outstanding Student Scholarship(Gold Award)**
University of Science and Technology of China
- 2022 **Provincial 2nd Prize in CMC**
Chinese Mathematical Society
- 2021 **Outstanding Student Scholarship(Bronze Award)**
University of Science and Technology of China
- 2020 **Scholarship for Outstanding Freshmen**
University of Science and Technology of China

PUBLICATIONS

InfoNet: An Efficient Feed-Forward Neural Estimator for Mutual Information.(Paper Submitted)

WORK EXPERIENCE

CURRENT, FROM JUN. 2023 (PT)
Fangcao Young Volunteers Association of USTC
Vice President

This position is responsible for coordinating volunteers across the entire university, providing volunteer services to both on-campus and off-campus individuals.

SEPT.2021, FROM SEPT. 2020 (PT)
Administrative Class
Monitor

This position is responsible for managing the day-to-day affairs of the administrative class and organizing activities to serve fellow students.

CURRENT, FROM SEPT. 2020 (PT)
Volunteer Works
Volunteer

Including organizing the 2023 Science and Technology Activity Week of USTC(serving over 20000 people), etc.

COMPUTER SKILLS

BEGINNER HTML, \LaTeX
INTERMEDIATE Linux, C, VHDL
EXPERT Python, MATLAB