SHIDA WANG

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GitHub: https://github.com/radarFudan

EDUCATION

B.S. (Math), Fudan University, 2020

Ph.D. (Math), National University of Singapore (NUS), Expected 2024 *Supervisor:* Qianxiao Li

RESEARCH INTEREST

Sequence Modelling, Recurrent Neural Network, Large Language Model, Dynamical System

PAPER

Inverse Approximation Theory for Nonlinear Recurrent Neural Networks (ICLR 2024, spotlight)

State-space models with layer-wise nonlinearity are universal approximators with exponential decaying memory (NeurIPS 2023)

A Brief Survey on the Approximation Theory for Sequence Modelling (JML 2023)

Efficient Hyperdimensional Computing (ECML 2023)

StableSSM: Alleviating the Curse of Memory in State-space Models through Stable Reparameterization (Under review)

Improve Long-term Memory Learning Through Rescaling the Error Temporally (Under review)

HyperSNN: A new efficient and robust deep learning model for resource constrained control applications (Under review)

EXPERIENCE

Internship at SAIL (2023.03-12):

Investigated the context extension in recurrent language models

Internship at Advance.AI (2021.08-10):

Investigated general anomaly detection techniques such as GAN and Autoencoder.

First Place in Citadel APAC Regional Datathon, Spring 2021

Teaching Assistant at NUS for DSA5102 (2020.08-11, 2021.08-11)

Internship at Megvii (2019.07-12):

Worked on basic models and Neural Architecture Search models.

Internship at Goku Data Limited (2019.01-03):

Worked with daily stock data and tried to produce some new factors

REVIEW EXPERIENCE

Reviewer for AISTAT 2023, 2024, HRI 2024

SKILLS

Fluent in Python (PyTorch, JAX, TensorFlow), C/C++, Haskell

Familiar with data structure, algorithm, operating system, and parallel programming

RELATED COURSES

Probability, Markov Chain, Brownian motion and Stochastic Calculus, Stochastic Control, Optimal Stopping and Stochastic Control in Finance, Topics in Differential Equations (Fluid Equation), Optimization, Microeconomics, Macroeconomics