Huiyu Xie

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github.com/huiyuxie
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huiyuxie.github.io

EXPERIENCES

The Julia Programming Language   *Mar. 2023 to Present*

TrixiCUDA.jl - *Lead Developer*   github.com/trixi-gpu/TrixiCUDA.jl

Develop GPU acceleration support for solving hyperbolic partial differential equations (PDEs), with a current focus on the semidiscretization of the solvers.

Trixi.jl - *Active Maintainer*   github.com/trixi-framework/Trixi.jl

Enhance numerical support by ensuring type stability for meshes, solvers, and callbacks during the simulation of hyperbolic partial differential equations (PDEs).

Google Summer of Code - *Open Source Contributor*   *May 2023 to Aug. 2023*

summerofcode.withgoogle.com/huiyuxie
julia.gsoc2023.project/huiyuxie
trixi-framework.github.io/gsoc/2023

Provided GPU support for Trixi (a high-order numerical simulation framework for hyperbolic PDEs) to accelerate the semidiscretization of hyperbolic PDE solvers, focusing on the Discontinuous Galerkin Collocation Spectral Element Method with tree mesh.

Bank of Hawai'i   *May 2024 to Aug. 2024*

Strategic Analyst   boh.com/business/checking-and-savings

Cleaned raw customer transaction and profile data, trained and tuned classification models, including logistic regression, decision tree, and XGBoost, to predict the customer group with a high probability of transferring accounts from checking-only to savings.

NVIDIA RAPIDS   *Oct. 2023 to Dec. 2023*

Open Source Developer   github.com/rapidsai/cugraph/pull/huiyuxie

Enhanced the Dataset API of cuGraph (a GPU-accelerated graph analytics library) by adding support for edgelist downloading and graph formation across multiple GPUs.

Shenzhen Research Institute of Big Data   *June 2020 to May 2022*

Student Researcher   sribd.cn/en/article/smartcampus

Leveraged Shannon Entropy, Approximate Entropy, Sample Entropy, and a Lempel-Ziv-based Entropy Estimator on the student trajectory data, improving the correlation between student trajectory and academic performance and creating entropy-based features for predicting student performance.

EDUCATION

Santa Clara University, School of Engineering   *Sep. 2022 to June 2024*

Master of Computer Science

The Chinese University of Hong Kong, School of Data Science   *Sep. 2018 to May 2022*

Bachelor of Statistics

SELECTED AWARDS

CUHK School of Data Science Dean's List   *Sep. 2020*

SKILLS

Programming Languages: Proficient in Python/C++/Java/SQL/R/MATLAB/Julia; Familiar with C/C#/JavaScript; **Cloud Computing:** AWS; **Distributed/Parallel:** CUDA/Open MPI/OpenMP/Spark;

Tools & Libraries: NumPy, pandas, SciPy, scikit-learn, Matplotlib, XGBoost, Dask, RAPIDS