CHEN-WEI CHOU

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Education

University of Illinois Urbana-Champaign, IL   Aug 2022 - Expected May 2025

Bachelor of Science in Mathematics with a minor in Computer Science (James Scholar Honors)

Research experience

University of Illinois Urbana-Champaign

Model Parallelism for Machine Learning [Tensorflow, Python, Matlab]   Jun − *Present*

- Studied operator placement and memory load balancing across GPUs in ML model parallelism.

- Investigated and benchmarked state-of-the-art model parallelism operator placement algorithms and explored memory balancing strategies to allow training bigger models with higher batch sizes. Supervisor: Dr. Indranil Gupta, Mentors: Shashwat Jaiswal, Xiaojuan Ma

Inclusive Outreach Materials in Educational Research [Combinatorics]   Jan − May 2024

- Pushed the boundaries of what students consider to be mathematics by engaging them in activities

- Engaged 50 high school students in enriching activities that teach them mathematical ideas/topics Supervisor: Dr. Karen Mortensen , Mentor: Ada Stelzer, Grace McCourt

Improving Application Availability with Restart-Based Framework [Linux, Docker, C] Jan − May 2024

- Build docker-based containers and connect multiple containers over a network and configuring power states systematically can assist build abstractions for reboot-based network security mechanisms

- Leveraging commands to and from individual containers to monitor parameters at a controller node   Mentor: Ashish Kashinath

Visualization and Simulation for Domino Tiling in Pinecone [Python]   Jan − May 2023

- Solve tiling problem of 2×1 pieces on large non-symmetric domain and find an effective way to encoding tiling configuration on the pinecone domain

- Design the algorithm to visualize tiling configurations in python   Mentor: Trung Vu

Work experience

Independent Linux Consultant, Self-employed   Oct 2012 − Jun 2019

- Provided 10 enterprise consulting services with RHEL to solve difficult predicaments as well as shortened open source projects (oVrit, OpenStack, HA cluster, Gluster storage) deployment with completion date within a quarter of a year

Publications

Xiaojuan Ma, Shashwat Jaiswal, Chirag Shetty, Chen-Wei Chou, Kevin Zhang, Indranil Gupta. 2025. Memory Balanced Model Parallelism for ML. Under review at a conference.

Honors

First place ICPC (The International Collegiate Programming Contest SoCal)   Feb 2022

Computer skills

Linux Operating System:

Red Hat Certified Architect in Infrastructure Level 5 (Certification ID: 130-230-063)