Cheng-Hsiang Chiu

https://cheng-hsiang-chiu.github.io/

Email : chenghsiang.chiu@wisc.edu

Mobile : +1-657-348-3118

EDUCATION

- **University of Wisconsin-Madison**
  Ph.D. in Electrical and Computer Engineering
  Madison, Wisconsin, USA
  Aug. 2023 – Present

- **École Polytechnique Fédérale de Lausanne**
  Master of Science in Computer Science
  Lausanne, Switzerland
  Sep. 2013 – Feb. 2016

- **National Chiao Tung University**
  Master of Science in Communication Engineering
  Hsinchu, Taiwan
  Sep. 2005 – Aug. 2007

- **National Chung Cheng University**
  Bachelor of Science in Electrical Engineering
  Chiayi, Taiwan
  Sep. 2001 – Jun. 2005

ONGOING PROJECTS

- **AsyncTask**: Developing a dynamic task graph scheduling library in Taskflow (https://taskflow.github.io).
- **Pipeflow**: Developing a task-parallel pipeline scheduling framework with token-dependency atop Taskflow (https://taskflow.github.io).

EXPERIENCE

- **U of Utah**
  Ph.D. Researcher
  Utah, USA
  Aug. 2020 - Aug. 2023
  - **Taskflow**: Worked on the development of Taskflow.

- **Intel**
  Software Intern
  Texas, USA
  May 2022 - Aug. 2022
  - **SYCL**: Worked on the development of implicit SYCL Graph.

- **Cadence**
  Software Intern
  Texas, USA
  May 2021 - Aug. 2021
  - **Buffer Insertion Acceleration**: Accelerated the executions of buffer insertion algorithm by 16%.

- **UiT**
  Doctoral Researcher
  Tromso, Norway
  Feb. 2019 - Dec. 2019
  - **Edge computing**: Implemented an energy efficient framework to classify Arctic wild animals in-situ.
  - **Power data**: Performed data cleansing and developed visualization framework of power data in Tromso, Norway.

SELECTED PUBLICATIONS

- **C.H. Chiu**, D.L. Lin, and T.W. Huang, "Programming Dynamic Task Parallelism for Heterogeneous EDA Algorithms," *ICCAD*, 2023.

- **C.H. Chiu** and T.W. Huang, "Composing Pipeline Parallelism using Taskflow Control Graph," *HPDC*, 2022.

- **C.H. Chiu** and T.W. Huang, "Efficient Timing Propagation with Simultaneous Structural and Pipeline Parallelisms," *DAC*, 2022.

- **C.H. Chiu**, T. W. Huang, Z. Guo, and Y. Lin, "Pipeflow: An Efficient Task-Parallel Pipeline Programming Framework using Modern C++," *arXiv*, https://arxiv.org/abs/2202.00717.

- **C.H. Chiu**, D.L. Lin, and T.W. Huang, "An Experimental Study of SYCL Task Graph Parallelism for Large-Scale Machine Learning Workloads," *Euro-Par*, 2021.

SKILLS

- **Language**: C, C++, Python, Javascript, HTML, SQL
- **Unit Test**: doctest
- **Profiler**: gprof, perf
- **Programming Model**: Taskflow, SYCL, oneTBB (Pipeline), OpenMP, Cilk