Dr. JING CHEN

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Göteborg, Sweden
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https://jingchen95.github.io/

Education

08/2018 – 11/2023	Ph.D. in Computer Architecture, **Chalmers University of Technology** (Sweden) Advised by Prof. Miquel Pericàs Ph.D. thesis: *Adaptive Task Scheduling and Resource Management Techniques for Energy Efficiency in Multi-core Systems*
09/2015 – 07/2018	M.S. in Computer Engineering, **National University of Defense Technology** (China) Advised by Prof. Jianbin Fang and Prof. Weifeng Liu M.S. Thesis: *Implementing and Optimizing Alternating Least Squares on Many-Cores*
09/2011 – 06/2015	B.S. in Computer Science and Technology, **Southwest Jiaotong University** (China) Thesis: *Design of Interest Mining System Based on WEB Text*

Work experience

05/2024 –	Postdoctoral researcher, **Chalmers University of Technology** (Sweden)
12/2023 – 04/2024	Research Assistant, **Chalmers University of Technology** (Sweden)

Projects

04/2025 –	Energy Efficient Task Scheduling on Multi-GPUs **Chalmers University of Technology** (Sweden) *GPGPU Performance and Power Modeling, NVML kernel Profiling, CUDA Tasking model, Scheduling Scheme Optimization for Energy Efficiency*
03/2025 –	DARE: A new era for supercomputing in Europe **Chalmers University of Technology** (Sweden) *SYCL Compiler Development (AdaptiveCpp, OpenMP Backend)*

12/2021 –	EUPilot: Pilot using Independent Local & Open Technologies **Chalmers University of Technology** (Sweden) *High-performance OpenMP Task Runtime Scheduler Development in LLVM*
04/2021 – 07/2025	eProcessor - An Open Source Full Stack Ecosystem **Chalmers University of Technology** (Sweden) *Adaptive Task Scheduling for Energy Performance Trade-offs on Multi-core Architectures*
08/2018 – 12/2020	LEGaTO - The Low Energy Toolset for Heterogeneous Computing **Chalmers University of Technology** (Sweden) *Energy-Efficient Resource Management for Multi-Core Systems*
07/2016 – 02/2018	Performance Optimization of Alternating Least Squares (ALS) on GPUs **National University of Defense Technology** (China) *Development of Data Reuse / Reordering and Novel Compressed Sparse Matrix Format for GPU-Accelerated ALS*

Teaching experience

2018 – 2025	High Performance Parallel Programming **Chalmers University of Technology** (Sweden) *Teaching assistant*
2021 – 2022	Sustainable Computing **Chalmers University of Technology** (Sweden) *Teaching assistant*
2018 – 2021	Parallel Computer Architecture **Chalmers University of Technology** (Sweden) *Teaching assistant*

Supervision

2025	Hongguang Chen (Ph.D. Student) **Chalmers University of Technology** (Sweden) Research project: *High-performance OpenMP Tasking Runtime Development + GROMACS*
	Long Cheng (Research Assistant) **Chalmers University of Technology** (Sweden) Research project: *KV Cache Quantization Technique in LLMs on GPUs*

Axel Carlsson, Edvin Mellberg (Master Students)
Chalmers University of Technology (Sweden)
Master thesis: *ILAN: The Interference- and Locality-Aware NUMA Scheduler*

2022

Henrik Andersson, Carl Wiede (Master Students)
Chalmers University of Technology (Sweden)
Master thesis: *Energy-Performance Balancing Task Scheduler for Asymmetric Platforms*

Publications

2025

Axel Carlsson, Edvin Mellberg, Jing Chen, Miquel Pericàs
ILAN: The Interference- and Locality-Aware NUMA Scheduler
In 16th International Workshop on Performance Modeling, Benchmarking and Simulation of High Performance Computer Systems (PMBS 2025)

2024

Sonia Rani Gupta, Nikela Papadopoulou, Jing Chen, Miquel Pericàs
Co-Design of Convolutional Algorithms and Long Vector RISC-V Processors for Efficient CNN Model Serving
Proceedings of the 53rd International Conference on Parallel Processing (ICPP 2024)

Jing Chen, Madhavan Manivannan, Bhavishya Goel, Miquel Pericàs
SWEEP: Adaptive Task Scheduling for Exploring Energy Performance Trade-offs
In 38th IEEE International Parallel & Distributed Processing Symposium (IPDPS 2024)

2023

Jing Chen, Madhavan Manivannan, Bhavishya Goel, Miquel Pericàs
JOSS: Joint Exploration of CPU-Memory DVFS and Task Scheduling for Energy Efficiency
In 52nd International Conference on Parallel Processing (ICPP 2023)

2022

Jing Chen, Madhavan Manivannan, Bhavishya Goel, Mustafa Abduljabbar, Miquel Pericàs
STEER: Asymmetry-aware Energy Efficient Task Scheduler for Cluster-based Multicore Architectures
In IEEE 34th International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2022)

Jing Chen, Madhavan Manivannan, Mustafa Abduljabbar, Miquel Pericàs
ERASE: Energy Efficient Task Mapping and Resource Management for Work Stealing Runtimes
In ACM Transactions on Architecture and Code Optimization (TACO 2022)

2021

Jing Chen, Jianbin Fang, Weifeng Liu, Canqun Yang
BALS: A Blocked Alternating Least Squares Algorithm for Parallel Matrix Factorization
In IEEE Transactions on Parallel and Distributed Systems (TPDS 2021)

2020 Jing Chen, Pirah Noor Soomro, Mustafa Abduljabbar, Madhavan Manivannan, Miquel Pericàs
Scheduling Task-parallel Applications in Dynamically Asymmetric Environments
In 49th International Conference on Parallel Processing Workshops SRMPDS (ICPPW 2020)

2019 Jing Chen, Madhavan Manivannan, Mustafa Abduljabbar, Miquel Pericàs
Towards an Energy Aware Task Scheduler for Asymmetric Architectures
In 12th Nordic Workshop on Multi-Core Computing (MCC 2019)

2018 Jing Chen, Jianbin Fang, Weifeng Liu, Tao Tang, Canqun Yang
clMF: A Fine-Grained and Portable ALternating Least Squares Algorithm for Parallel Matrix Factorization
In Future Generation Computer Systems (FGCS 2018)

2017 Xi Yang, Jianbin Fang, Jing Chen, Chengkun Wu, Tao Tang, Kai Lu
High Performance Coordinate Descent Matrix Factorization for Recommender Systems
In ACM International Conference on Computing Frontiers (CF 2017)

Jing Chen, Jianbin Fang, Weifeng Liu, Tao Tang, Xuhao Chen, Canqun Yang
Efficient and Portable ALS Matrix Factorization for Recommender Systems
In 6th International Conference of Parallel and Distributed Processing Symposium Workshop ParLearning (IPDPSW 2017)

Jing Chen, Jianbin Fang, Tao Tang, Canqun Yang
Implementation and Performance Evaluation of Recommender Algorithms Based on Multi-/Many-core Platforms
In Computer Science 2017

Poster Presentations

2025 Sonia Rani Gupta, Nikela Papadopoulou, Jing Chen, Miquel Pericàs
CNN and RVV Co-design for Efficient Model Serving
In 19th ACM International Conference on Distributed and Event-Based Systems (DEBS 2025)

2019 Jing Chen
An Adaptive Energy & Performance-oriented Task Scheduler for Integrated Systems
In 15th International Summer School on Advanced Computer Architecture and Compilation for High-performance Embedded Systems (ACACES 2019)

Services

2025
14th International Workshop on Runtime and Operating Systems for Supercomputers (SC - ROSS)
External Reviewer

39th IEEE International Parallel & Distributed Processing Symposium (IPDPS)
External Reviewer

Design, Automation and Test in Europe Conference (DATE)
External Reviewer

2024
The International Conference for High Performance Computing, Networking, Storage, and Analysis (SC)
External Reviewer

International Conference on Supercomputing (ICS)
External Reviewer

2023
International Conference on Supercomputing (ICS)
External Reviewer

The Platform for Advanced Scientific Computing (PASC)
External Reviewer

2022
International European Conference on Parallel and Distributed Computing (Europar)
External Reviewer

2021
Design, Automation and Test in Europe Conference (DATE)
External Reviewer

Honors

2015
Outstanding Graduates of Southwest Jiaotong University
Southwest Jiaotong University (China)

2014
National Scholarship
Southwest Jiaotong University (China)

2013
Excellent Student Leader
Southwest Jiaotong University (China)

2012
All-Round Excellence Award
Southwest Jiaotong University (China)

2012	Award for Outstanding Spiritual and Ethical Conduct **Southwest Jiaotong University** (China)
2011 – 2014	Annual Outstanding Undergraduate Student Scholarship **Southwest Jiaotong University** (China)

Languages

Native	Mandarin Chinese
Fluent	English
Intermediate	Swedish

References

Main Ph.D. supervisor	Prof. Miquel Pericàs **Chalmers University of Technology (Sweden)** miquelp@chalmers.se
Ph.D. co-supervisors	Dr. Madhavan Manivannan, Dr. Bhavishya Goel **Chalmers University of Technology (Sweden)** madhavan@chalmers.se, goelb@chalmers.se
Main M.S. supervisor	Prof. Jianbin Fang **National University of Defense Technology (China)** j.fang@nudt.edu.cn
M.S. co-supervisor	Prof. Weifeng Liu **China University of Petroleum-Beijing (China)** weifeng.liu@cup.edu.cn