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 engineering, **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 science, **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, **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

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 Development in LLVM

04/2021 –	eProcessor - An Open Source Full Stack Ecosystem
	Chalmers University of Technology (Sweden)
	Adaptive Task Scheduling for Energy Performance Trade-offs
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 – 2024	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	Long Cheng
	Chalmers University of Technology (Sweden)
	Research project: *KV Cache Quantization Technique in LLMs*
	Axel Carlsson, Edvin Mellberg
	Chalmers University of Technology (Sweden)
	Master's thesis: *ILAN: The Interference- and Locality-Aware NUMA Scheduler*
2022	Henrik Andersson, Carl Wiede
	Chalmers University of Technology (Sweden)
	Master's thesis: *Energy-Performance Balancing Task Scheduler for Asymmetric Platforms*

Publications

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	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)

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