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Hyunmo Sung

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EDUCATION

Master of Computer science

March 2020 - February 2023

Yonsei university, Seoul, Korea

Main courses: Multicore computing topics, Introduction to approximation algorithms

Bachelor of Computer science

March 2016 - February 2020

Yonsei university, Seoul, Korea

Main courses: Algorithm analysis, Computer graphics, Compiler design, Multicore programming fundamentals

Bachelor of Multimedia engineering

March 2014 - February 2016

Dongguk university, Seoul, Korea

Main courses: Multimedia Data Structures, Internet Programming, Multimedia Programming

WORK EXPERIENCE

Researcher

February 2020 - February 2023

ELC(Embedded Systems Languages and Compilers Lab)

Yonsei University, Seoul, Korea

- Researched about the profile-guided-optimization.
- Evaluated the performance of the bloom filter using CUDA unified memory.
- Evaluated the performance of lazy parallel kronecker algebra on the modern GPU T4.

Internship

July 2019 - February 2020

ELC(Embedded Systems Languages and Compilers Lab)

Yonsei University, Seoul, Korea

- Researched about the kronecker algebra to detect the deadlock of the program.

PUBLICATION

Performance Evaluation of GPU-based Bloom Filters Using CUDA Unified Memory

2022

Hyunmo Sung, and Bernd Burgstaller

Korea Software Congress 2022

Lazy Evaluation of Kronecker Algebra Operations on the Tesla T4 GPU

2020

Ham, Seokhwan, Hyunmo Sung, Shinhyung Yang, and Bernd Burgstaller

Korea Computer Congress 2020 (한국정보과학회 학술발표논문집 2020): 44-46.

PATENT

프로세스 인 메모리의 활용을 위한 오프로드 처리 방법 및 그를 위한 장치

(Offloading methodology for utilizing Processing-In-Memory and the machine for it)

Bernd Burgstaller, Hyunmo Sung, Seongho Jeong, Shinhyung Yang, Jayhwan Lee, and Jiun Jung.

Application No. 10-2022-0162906, Nov 29 2022.

PROJECT

Research on PGO

December 2022

Master's Thesis

- Developed a tool chain for PIM utilization by profile-guided-optimization.
- Developed a simple language that programmer can define offloading heuristic outside of the tool-chain.
- Evaluated performance of profile-guided-optimization for processing-in-memory on the simulator.

Research on Kronecker algebra

December 2019

Bachelor's Capstone project

- Evaluated kronecker algebra computation on the cloud environment.

Research on AR

June 2019

Bachelor's Capstone project

- Developed an AR evacuation simulator using a projector and the kinect.

TEACHING EXPERIENCE

• Teaching assistant

– Compiler Design (CSI4104-01)

Autumn 2021, Autumn 2022

Yonsei University, Seoul, Korea

– Computer Programming (CAC1100-01)

Spring 2022

Yonsei University, Seoul, Korea

– Computer Programming (CSI2100-01)

Spring 2020, Spring 2021

Yonsei University, Seoul, Korea

– SW Programming (YCS1002-11/12/13)

Spring 2021, Autumn 2021

Yonsei University, Seoul, Korea

– SW Programming (YCS1002-01)

Winter 2020

Yonsei University, Seoul, Korea

– Computational Thinking and SW Programming (YCS1001-04)

Autumn 2020

Yonsei University, Seoul, Korea

AWARDS

• Capstone project 1st place (졸업 작품 최우수상)

December 06, 2019

Lazy Parallel Kronecker Algebra, Yonsei University, Seoul, Korea

• Capstone project 1st place (졸업 작품 최우수상)

May 13, 2019

Projection-Based AR Evacuation Simulator using Kinect for Windows V2, Yonsei University, Seoul, Korea

• Honored Student Prize (학기 우등생)

July 09, 2015

Dongguk University, Seoul, Korea

• Honored Student Prize (학기 우등생)

January 09, 2015

Dongguk University, Seoul, Korea

• Honored Student Prize (학기 우등생)

July 07, 2014

Dongguk University, Seoul, Korea

GRANT/SCHOLARSHIP

- **Graduate Student Research Assistant (재학조교장학금)**, 3,416,000 KRW (about 2,729 USD)
Yonsei University, Seoul, Korea, Winter 2021
- **Teaching Assistant scholarship (재학조교장학금)**, 1,800,000 KRW (about 1,438 USD)
Yonsei University, Seoul, Korea, Winter 2021
- **Teaching Assistant scholarship (재학조교장학금)**, 1,800,000 KRW (about 1,438 USD)
Yonsei University, Seoul, Korea, Spring 2021
- **Graduate Student Research Assistant (재학조교장학금)**, 3,625,000 KRW (about 2,896 USD)
Yonsei University, Seoul, Korea, Spring 2021
- **Internal Scholarship (계절학기조교장학금)**, 748,000 KRW (about 598 USD)
Yonsei University, Seoul, Korea, Winter 2020
- **Graduate Student Research Assistant (재학조교장학금)**, 3,416,000 KRW (about 2,729 USD)
Yonsei University, Seoul, Korea, Autumn 2020
- **Teaching Assistant scholarship (재학조교장학금)**, 1,800,000 KRW (about 1,438 USD)
Yonsei University, Seoul, Korea, Autumn 2020
- **Fund scholarship (고등교육혁신팀사회혁신활동장학금 (연구지원))**, 2,000,000 KRW (about 1,598 USD)
Yonsei University, Seoul, Korea, Autumn 2020
- **Graduate Student Research Assistant (재학조교장학금)**, 3,416,000 KRW (about 2,729 USD)
Yonsei University, Seoul, Korea, Spring 2020
- **Merit Scholarship(Academic) (성적우수장학 (학비감면))**, 1,374,000 KRW (about 1,098 USD)
Dongguk University, Seoul, Korea, Autumn 2015
- **A-Grade (전공 (학과) 수석장학)**, 3,206,000 KRW (about 2,561 USD)
Dongguk University, Seoul, Korea, Autumn 2014

SKILLS

Programming	C, C++, C#, CUDA, Python, LLVM, PAPI, CMake
Communication	Korean (native), English (proficient)
Other	Github, Unity, Visual studio code, Linux(Ubuntu)