

# HOKEUN CHA

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## RESEARCH INTERESTS

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Storage systems  
Database systems  
Distributed systems

## EDUCATION

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**University of Wisconsin-Madison**, Wisconsin, USA

Ph.D. in Computer Science

*Jan. 2021 - Present*

- Advisor: Prof. Xiangyao Yu and Prof. Aditya Akella

**Sungkyunkwan University**, Suwon, South Korea

M.S. in Electrical and Computer Engineering

*Sep. 2018 - Aug. 2020*

- Advisor: Prof. Beomseok Nam
- Thesis: Leveraging Byte-Addressability of Persistent Memory for B+-tree

B.S. in Computer Science and Engineering

*Mar. 2012 - Aug. 2018*

B.B.A in Business Administration

*Mar. 2012 - Aug. 2018*

## WORK & RESEARCH EXPERIENCE

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**Intel Corp.**, Hillsboro, Oregon, USA

Software Engineer Intern in MTC

*May. 2022 - Present*

**University of Wisconsin-Madison**, Wisconsin, USA

Research Assistant in Database Group

*May. 2021 - May. 2022*

- Designing a new scalable index structure

**Sungkyunkwan University**, Suwon, South Korea

Researcher at Convergence Research Institute

*Sep. 2020 - Dec. 2020*

- Disaggregating persistent memory over RDMA networks

Graduate Research Assistant in Data-Intensive Computing Lab.

*Sep. 2018 - Aug. 2020*

- Designing Index Structures
  - Write-optimized B+-tree for persistent memory
  - Cacheline-conscious extendible Hashing for persistent memory

## PUBLICATIONS

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- [1] “*Pivotal B+ tree for Byte-Addressable Persistent Memory*”  
Jonghyeon Yoo, **Hokeun Cha**, Wonbae Kim, Wook-Hee Kim, Sung-Soon Park, and Beomseok Nam  
IEEE Access, vol. 10, pp. 46725-46737, 2022. [\[doi\]](#)
- [2] “*B<sup>3</sup>-tree: Byte-Addressable Binary B-Tree for Persistent Memory*”  
**Hokeun Cha**, Moohyeon Nam, Kibeom Jin, Jiwon Seo, and Beomseok Nam  
ACM Transactions on Storage (ToS), vol. 16, no. 3, Aug. 2020. [\[doi\]](#)
- [3] “*Write-Optimized Dynamic Hashing for Persistent Memory*”  
Moohyeon Nam, **Hokeun Cha**, Young-ri Choi, Sam H. Noh, and Beomseok Nam  
In proceedings of the 17th USENIX Conference on File and Storage Technologies (FAST’19), Feb. 2019.  
[\[view paper\]](#)

## TEACHING EXPERIENCE

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### **University of Wisconsin-Madison, Wisconsin, USA**

Graduate Teaching Assistant

- CS564: Database Management Systems

Spring, 2021

### **Sungkyunkwan University, Suwon, South Korea**

Graduate Teaching Assistant

- SWE3021: Multi-core Computing
- SWE3006: Programming Languages

Fall, 2019

Spring, 2019

## INVITED TALKS

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- [1] “*Write-Optimized Dynamic Hashing for Persistent Memory*”,  
Korea Software Congress (KSC), Pyeongchang, South Korea

Dec. 2019

## HONORS

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### **CS Departmental Scholarship**

University of Wisconsin-Madison, Wisconsin, USA

Spring - Fall, 2021

### **Merit-based Scholarship for Graduate Students**

Sungkyunkwan University, Suwon, South Korea

Fall, 2018 - Spring, 2020

### **Merit-based Scholarship for Undergraduate Students**

Sungkyunkwan University, Suwon, South Korea

Spring, 2013

## OTHER EXPERIENCE

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### **Shinhan Bank, Shanghai, China**

- Business management internship

Jan. 2017 - Feb. 2017

### **Korea Exchange & Happy Foundation Corp., Seoul, South Korea**

- Volunteer service of school education and facility renovation in Laos

Jan. 2016 - Jan. 2016

### **Childfund Korea, Seoul, South Korea**

- Volunteer service of letter translation (English ↔ Korean)

Sep. 2015 - Sep. 2018

### **Military Service, South Korea**

- Served as a Republic of Korean Army

Oct. 2013 - Jul. 2015

### **Wable Company, Seoul, South Korea**

- Mobile application marketing internship

Nov. 2012 - Jun. 2013