

Joon Kyung Kim

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RESEARCH INTERESTS

Computer Architecture • Compiler Optimizations • Operating Systems • Machine Learning

EDUCATION

Georgia Institute of Technology

M.S. in Computer Science

| Expected May 2018

Area | Computing Systems

Advisor | [Dr. Hadi Esmaeilzadeh](#)

Georgia Institute of Technology

B.S. in Computer Science

| May 2016

Advisor | [Dr. Hadi Esmaeilzadeh](#)

HONORS AND AWARDS

Distinguished Paper Award in IEEE Symposium on High Performance Computer Architecture | 2016

"TABLA: A Unified Template-based Framework for Accelerating Statistical Machine Learning"

Georgia Tech President's Undergraduate Research Award | 2015

Received a salary award (\$1,500) for the TABLA project

William Orr Dingwall Foundation | 2011

2011 Korean Ancestry Grant Scholarship Recipient

PUBLICATIONS

Conference Papers

..... 2017

[P3] J. Park, H. Sharma, D. Mahajan, **J. Kim**, P. Olds, and H. Esmaeilzadeh, "[Scale-Out Acceleration for Machine Learning](#)" 50th International Symposium on Microarchitecture (MICRO), October 2017.

..... 2016

[P2] H. Sharma, J. Park, D. Mahajan, E. Amaro, **J. Kim**, C. Shao, and H. Esmaeilzadeh, "[From High-Level Deep Neural Models to FPGAs](#)" 49th International Symposium on Microarchitecture (MICRO), October 2016.

[P1] D. Mahajan, J. Park, E. Amaro, H. Sharma, A. Yazdanbakhsh, **J. Kim**, and H. Esmaeilzadeh, "[TABLA: A Unified Template-based Framework for Accelerating Statistical Machine Learning](#)," 22nd IEEE Symposium on High Performance Computer Architecture (HPCA), March 2016. (**Distinguished Paper Award**)

Technical Reports

..... 2015

[TR1] D. Mahajan, J. Park, E. Amaro, H. Sharma, A. Yazdanbakhsh, **J. Kim**, and H. Esmaeilzadeh, "[TABLA: A Unified Template-based Framework for Accelerating Statistical Machine Learning](#)," SMARTech, SCS Technical Report, GT-CS-15-07.

In-Progress

..... 2017

[P1] D. Mahajan, **J. Kim**, A. Ardalan, A. Kumar, and H. Esmaeilzadeh, "[In-RDBMS Hardware Acceleration of Advanced Analytics](#)" 44th International Conference on Very Large Data Bases (VLDB 2018).

PROFESSIONAL EXPERIENCE

AMAZON WEB SERVICES | SOFTWARE DEVELOPMENT ENGINEER INTERN

SUMMER 2017 | SEATTLE, WA

TEAM: AWS AURORA POSTGRES

MENTOR: [Arun Sudhir](#) • MANAGER: [Ashutosh Galande](#)

- Designed and implemented a client authentication mechanism for AWS Aurora Postgres and RDS Postgres customers by integrating the AWS IAM (Identity and Authentication Management) service.

DELL SECUREWORKS | SOFTWARE DEVELOPER CO-OP

SPRING 2015, SUMMER 2014, FALL 2013 | ATLANTA, GA

TEAM: CUSTOMER PORTAL TEAM

MENTOR: [Veera Rayala](#) • MANAGER: [Chris Phillips](#)

- Developed the customer web portal system and a company internal tool for visualizing server performance metrics.

TEACHING EXPERIENCE

■ Teaching Assistant

| | |
|------------|-----------------------------------|
| Course | Compiler Design (CS 6241) |
| Instructor | Dr. Santosh Pande |
| Location | Georgia Institute of Technology |
| Semester | Spring 2018 |

■ Teaching Assistant

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| Course | Design and Analysis of Algorithms (CS 3510) |
| Instructor | Dr. Richard Peng |
| Location | Georgia Institute of Technology |
| Semester | Fall 2017 |

■ Head Teaching Assistant

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|------------|---|
| Course | Design and Analysis of Algorithms (CS 3510) |
| Instructor | Dr. Merrick Furst |
| Location | Georgia Institute of Technology |
| Semester | Spring 2017 |

■ Teaching Assistant

| | |
|------------|---|
| Course | Design and Analysis of Algorithms (CS 3510) |
| Instructor | Dr. Richard Peng |
| Location | Georgia Institute of Technology |
| Semester | Fall 2016 |

SKILLS

PROGRAMMING LANGUAGES

- C, C++, Python, Java, Bash

FRAMEWORKS

- LLVM

ARTIFACTS

- TABLA: An accelerator generator for statistical machine learning algorithms | <http://act-lab.org/artifacts/tabla>
- DNNWEAVER: Framework for accelerating Deep Neural Networks | <http://act-lab.org/artifacts/dnnweaver>