Chaeeun Kim

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RESEARCH INTEREST

Large scale graph mining, Graph algorithm, Distributed algorithm, Distributed system

EDUCATION

Kookmin University   *Mar 2020 - Feb 2022*

M.S. in Computer Science; GPA: 4.33 / 4.5

Advisor: Prof. Ha-Myung Park

Thesis: Efficient Algorithm for Computing Connected Components of an Enormous Graph using a Commodity Cluster

Kookmin University   *Mar 2015 - Feb 2020*

B.S. in Computer Science; GPA: 3.33 / 4.5

RESEARCH EXPERIENCES

Data Mining Lab in Kookmin Univ.   *Mar 2020 - Feb 2022*

M.S. Student, Advised by Prof. Ha-Myung Park

1. Proposed a fast and scalable MapReduce connected component algorithm in commodity hardware.
   - *Succeeds in processing a large graph with 129 billion edges, which is up to 4096 times larger than graphs competitors can process in a cluster of 10 cheap machines.*
2. Proposed distributed Union-Find algorithm for finding connected components in a distributed-memory system.
   - *Outperforms existing algorithms by processing 16-1024 times larger graphs with 3.1-261.9 times faster speeds.*
3. Developed an anomaly detection system using Tensor Decomposition.
   - Given KISTI's security event logs, transform them into a tensor consisting of IP, Port, and Attack Type, and decompose the tensor for clustering analysis.

ISG Group in UC Irvine   *Jun 2018 - Dec 2018*

Undergraduate Research Intern, Advised by Prof. Chen Li

1. Developed "TwitterMap" which visualizes Twitter data on a Korean map.
2. Developed the front-end for "TwitterMap".

PUBLICATIONS

Chaeeun Kim, Chang-hun Han, Ha-Myung Park
"UniCon: A Unified Star-Operation to Efficiently Find Connected Components on a Cluster of Commodity Hardware"
PLOS ONE, 2022.

Chaeeun Kim, Chang-hun Han, Ha-Myung Park
"BTS: Load-Balanced Distributed Union-Find for Finding Connected Components with Balanced Tree Structures"
Under Review (ICDE).

WORKING EXPERIENCES

Toss Securities   *May 2022 - Aug 2022*

Data Engineer Assistant

1. Developed data monitoring service which monitors ranking, news, and disclosure data for "Toss Securities" application.
2. Developed a log identifying service.

Humanscape   *Jun 2019 - Aug 2019*

Software Engineer Intern

1. Developed front-end for "Rarenote" mobile application.
2. Developed back-end for "Misetoktok" application.

TEACHING EXPERIENCES

Database System in Kookmin Univ, Teaching Assistant   *Spring 2021*

Computer Programming in Kookmin Univ, Teaching Assistant   *Spring 2019, 2020*

CERTIFICATION

TOFEL   *Jul 2022*
Internet-based 99

AWS Certified Cloud Practitioner   *Jun 2020*
Expires on Jun 30, 2023

The American Culture at Temple Program,   *Aug 2017*
Temple University

RoboCup 2016, Leipzig, Germany   *Jul 2016*
Humanoid League

AWARDS & HONORS

I-SURF Scholarship, Kookmin Univ. and UC Irvine   *Jun 2018 - Dec 2018*

SW Creative Track Scholarship, Kookmin Univ.   *Spring, Fall 2017*

Soccer Humanoid, RoboCup Korea Open 2016   *Feb, 2016*

SKILL

Language: Korean (native), English (fluent)

Software Language: Python, Java, SQL, C++, Bash, Javascript, HTML, CSS

Framework: MapReduce, Hadoop, Message Passing Interface, Spark, MySQL, Matplotlib, Numpy, Pandas, PyTorch

Platforms: Linux, Windows, macOS, AWS