Changbeom Shim, PhD

Research Associate ⋄ School of Elec Eng, Comp and Math Sci ⋄ Curtin University

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Education

Korea University   MAR 2014 - AUG 2019
PhD in Computer Science and Engineering   *Seoul, South Korea*

· Advisor: Prof Yon Dohn Chung

Korea University   MAR 2007 - FEB 2014
BE in Electronics and Information Engineering   *Sejong, South Korea*

· On leave: SEP 2008 - FEB 2011, Military Service

Professional Experiences

School of Elec Eng, Comp and Math Sci at Curtin University   NOV 2019 - Present
Research Associate   *Perth, Australia*

· Project 3: An intelligent system for crime analysis and prevention based on multi-object tracking and situational awareness
· Project 2: A data-driven system for privacy-preserving pandemic prevention
· Project 1: Efficient large-scale multi-object tracking

Database Laboratory at Korea University   MAR 2014 - AUG 2019
Research Assistant   *Seoul, South Korea*

· Project 3: A research on safe and convenient big data processing methods
· Project 2: A research on privacy issues and privacy protection methods for social network services
· Project 1: An intelligent system for crime detection/prevention and public security based on CCTV bigdata

School of Engineering at RMIT University   JAN 2019 - FEB 2019
Visiting Student of Dr Du Yong Kim   *Melbourne, Australia*

· Project: A research on random finite set approach to database applications

Korea Institute of Science and Technology Information (KISTI)   JUL 2013 - FEB 2014
Student Researcher   *Daejeon, South Korea*

· Project: Research on analysis and application platform technologies for science and technology big data

Honors and Awards

OCT 2021	Best Paper Award (First Runner-Up), Int. Conf. on Cont., Auto. and Info. Sci. (ICCAIS)
SEP 2020	Postdoctoral Fellowship Program, National Research Foundation (NRF) of Korea
FEB 2019	KU Graduate Student Achievement Award, Korea University
JUL 2018	Student Paper Contest Award, Korea Computer Congress (KCC)
FEB 2018	Outstanding PhD Candidate Paper Award, Korea University
OCT 2017	Honorable Mention Award, IEEE Visual Analytics Science and Technology (VAST Challenge)
MAY 2015	Outstanding Paper Award, Korean DataBase Conference (KDBC)

Research Interests

Data Engineering, Signal Processing, and Machine Learning

- Query Processing, Spatio-Temporal, Graph Algorithms, Visual Analytics, Multi-Object Tracking

Publications

International Journals

J8 Jonah Ong, Ba Tuong Vo, Sven Nordholm, Ba-Ngu Vo, Diluka Moratuwage, and **Changbeom Shim**,
"Audio-Visual Based Online Multi-Source Separation,"
IEEE/ACM Transactions on Audio, Speech, and Language Processing, Early Access, 2022

J7 Cong-Thanh Do, Tran Thien Dat Nguyen, Diluka Moratuwage, **Changbeom Shim**, and Yon Dohn Chung,
"Multi-object Tracking with an Adaptive GLMB Filter,"
Signal Processing, Vol 196: 108532, Jul 2022

J6 Wooil Kim, **Changbeom Shim**, and Yon Dohn Chung,
"SkyFlow: A visual analysis of high-dimensional skylines in time-series,"
Journal of Visualization, Vol 24(5): 1033-1050, May 2021

J5 **Changbeom Shim**, Gyuhyeon Sim, and Yon Dohn Chung,
"Cohesive Ridesharing Group Queries in Geo-Social Networks,"
IEEE Access, Vol 8: 97418-97436, May 2020

J4 Wooil Kim, **Changbeom Shim**, Wan Heo, Sungmin Yi, and Yon Dohn Chung,
"Moving view field nearest neighbor queries,"
Data & Knowledge Engineering, Vol 119: 58-70, Jan 2019

J3 **Changbeom Shim**, Wooil Kim, Wan Heo, Sungmin Yi, and Yon Dohn Chung,
"Nearest close friend search in geo-social networks,"
Information Sciences, Vol 423: 235-256, Jan 2018

J2 Sungmin Yi, **Changbeom Shim**, and Yon Dohn Chung,
"Reverse View Field Nearest Neighbor Queries,"
Information Sciences, Vol 402: 35-49, Sep 2017

J1 **Changbeom Shim**, Wooil Kim, Wan Heo, Sungmin Yi, and Yon Dohn Chung,
"ℓ-Close Range Friends Query on Social Grid Index,"
IEICE Transaction on Information and Systems, Vol 100-D(4): 811-812, Apr 2017

International Conferences

C3 **Changbeom Shim**, and Du Yong Kim,
"Space-oriented Label Partitioning for Multi-object Tracking," **Best Paper Award (First Runner-Up)**,
10th International Conference on Control, Automation and Information Sciences (ICCAIS), Oct 2021

C2 Tran Thien Dat Nguyen, **Changbeom Shim**, and Wooil Kim,
"Biological Cell Tracking and Lineage Inference Via Random Finite Sets,"
18th IEEE International Symposium on Biomedical Imaging (ISBI), Apr 2021

C1 Wooil Kim, **Changbeom Shim**, Ilhyun Suh, and Yon Dohn Chung,
"A Visual Explorer for Analyzing Trajectory Patterns," **Honorable Mention Award (Challenge)**,
12th IEEE Conference on Visual Analytics Science and Technology (VAST), Oct 2017

Patents

P2 Yon Dohn Chung, **Changbeom Shim**, and Wooil Kim,
"Device for searching nearest close friends,"
Oct 2020, Korea Registration Number: 10-2172236

P1 Yon Dohn Chung, and **Changbeom Shim**,
"Device and method for recommending ride sharing group, recording medium for performing the method,"
Jan 2020, Korea Registration Number: 10-2064376

Teaching Experiences

Lecturer at Korea University

FALL 2018   COSE214: Algorithm

Teaching Assistant at Korea University

FALL 2017   COSE156: Python Programming
SPRING 2016   COSE213: Data Structure
FALL 2015   COSE242: Data Communication
FALL 2014   COSE102: Computer Programming

Technical Experiences

Computer Languages   Java, Matlab, Python
Others   PostgreSQL, MySQL, Hadoop

References

References available upon request