JUN-GI JANG

CONTACT

Data Mining Laboratory
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EDUCATION

M.S/Ph.D Student   MAR. 2017 - PRESENT
Computer Science and Engineering
Seoul National University
Advisor: Prof. U Kang

Bachelor of Science   MAR. 2010 - FEB. 2017
Mechanical and Aerospace Engineering,
Computer Science and Engineering (double major)
Seoul National University

RESEARCH
INTERESTS

Tensor Analysis, Time Series Analysis

PUBLICATIONS

Conferences

C6. **Jun-Gi Jang** and U Kang, "DPar2: Fast and Scalable PARAFAC2 Decomposition for Irregular Dense Tensors", 38th IEEE International Conference on Data Engineering (ICDE) 2022, Virtual Event (oral presentation, acceptance rate $211/780 = 27.1\%$). **Best Paper Award, Honorable Mention.**

C5. **Jun-Gi Jang** and U Kang, "Fast and Memory-Efficient Tucker Decomposition for Answering Diverse Time Range Queries", The 27th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2021, Virtual Event (oral presentation, acceptance rate $238/1541 = 15.4\%$). **Best Paper Award, Best Research Paper.**

C4. Yong-chan Park, **Jun-Gi Jang**, and U Kang, "Fast and Accurate Partial Fourier Transform for Time Series Data", The 27th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2021, Virtual Event (oral presentation, acceptance rate $238/1541 = 15.4\%$).

C3. Moonjeong Park*, **Jun-Gi Jang***, and Lee Sael, "VEST: Very Sparse Tucker Factorization of Large-Scale Tensors", IEEE International Conference on Big Data and Smart Computing (BigComp), 2021, Online. (* equal contribution). **Best Paper Award, 1st Place.**

C2. **Jun-Gi Jang** and U Kang, "D-Tucker: Fast and Memory-Efficient Tucker Decomposition for Dense Tensors", 36th IEEE International Conference on Data Engineering (ICDE), 2020, Online (poster, acceptance rate rate $(129 + 55)/568 = 32\%$).

C1. **Jun-Gi Jang**, Donjin Choi, Jinhong Jung, and U Kang, "Zoom-SVD: Fast and Memory Efficient Method for Extracting Key Patterns in an Arbitrary Time Range", ACM International Conference on Information and Knowledge Management (CIKM), 2018, Lingotto, Turin, Italy (oral presentation, acceptance rate $147/826 = 17.8\%$).

Journals

J5. **Jun-Gi Jang***, Moonjeong Park*, Jongwuk Lee, and Lee Sael, "Large-scale tucker Tensor factorization for sparse and accurate decomposition", The Journal of Supercomputing, May, 2022. (* equal contribution).

J4. **Jun-Gi Jang**, Chaeheum Park, Changwon Jang, Geonsoo Kim, and U Kang, "Finding Key Structures in MMORPG Graph with Hierarchical Graph Summarization", ACM Transactions on Knowledge Discovery from Data, Feb., 2022.

J3. Dawon Ahn, **Jun-Gi Jang**, and U Kang, "Time-Aware Tensor Decomposition for Sparse Tensors", Machine Learning, Sep. 27, 2021.

J2. Dongjin Choi, **Jun-Gi Jang**, and U Kang, "S3CMTF: Fast, accurate, and scalable method for incomplete coupled matrix-tensor factorization", PLOS ONE, June 28, 2019.

J1. Sejoon Oh, Namyong Park, **Jun-Gi Jang**, Lee Sael, and U Kang, "High-Performance Tucker Factorization on Heterogeneous Platforms", IEEE Transactions on Parallel and Distributed Systems, Apr. 1, 2019.

Patents

P7. **Jun-Gi Jang** and U Kang, Apparatus and Method for Tensor Analysis (filed on May 2022).

P6. **Jun-Gi Jang** and U Kang, Apparatus and Method for Tensor Analysis (filed on Jul. 2021).

P5. Yongchan Park, **Jun-Gi Jang** and U Kang, Fast Partial Fourier Transform Method and Computing Apparatus for Performing the Same (filed on Apr. 2021).

P4. Dawon Ahn, **Jun-Gi Jang** and U Kang, Method for Tensor Decomposition with Temporal Dependency and Apparatus Therefor (filed on Mar. 2021).

P3. **Jun-Gi Jang** and U Kang, Method for Decomposing Tensor and Apparatus for Performing the Same (filed on Sep. 2020).

P2. Donjing Choi, **Jun-Gi Jang**, and U Kang, Data Analysis Method and Apparatus for Sparse Data (registered on Mar. 2020).

P1. **Jun-Gi Jang**, Dongjin Choi, and U Kang, Apparatus and Method for Processing Data (registered on Jan. 2020).

Best Paper Award

A3.	**Best Paper Awards, Honorable Mention**, ICDE	MAY 2022
A2.	**Best Paper Awards, Best Research Paper**, KDD	AUG. 2021
A1.	**Best Paper Awards, 1st Place**, BigComp	JAN. 2021

Fellowship

F8.	**SNU BK21 Star Researcher Award**, BK21	FEB. 2022
F7.	**Future Gauss Lecture Award**, Gauss Labs	FEB. 2022
F6.	**BK21 Best Graduate Student Award**, BK21	FEB. 2022
F5.	**Naver Ph.D. Fellowship Award**, Naver	DEC. 2021
F4.	**Qualcomm Innovation Fellowship**, Qualcomm	NOV. 2021
F3.	**Yulchon AI Star Fellowship**, Yulchon Foundation	SEP. 2021
F2.	**Lecture/Research Scholarship**, Seoul National University	MAR. 2019 - AUG. 2021
F1.	**Humantech Paper Award (Honorable Mention, lead-author)**, Samsung	FEB. 2018

WORK EXPERIENCE	**Research Intern,** HYPERCONNECT	JUL. 2020 - AUG. 2020

INVITED TALKS

AI Retreat, SNU AI Institute (AIIS)	APR. 2022
EIRIC Seminar, EIRIC	MAR. 2022
TechTalk, NAVER	FEB. 2022
Future Gauss Lecture, Gauss Labs	FEB. 2022
TechTalk, HYPERCONNECT	JAN. 2022
Korea Software Congress 2021, KIISE	DEC. 2021
AI Retreat, SNU AI Institute (AIIS)	NOV. 2021
Regular Seminar, Qatar Computing Research Institute (QCRI)	SEP. 2021
Korea Computer Congress 2020, KIISE	JUL. 2020
NC AI DAY, NC Soft	JAN. 2019
Korea Software Congress 2018, KIISE	DEC. 2018
Samsung AI Forum, Samsung	SEP. 2018

TEACHING EXPERIENCE

In Seoul National University

Lead T.A., M2177.004900 Theory and Lab of IoT, AI, and Big Data @ SNU	SPRING 2020
T.A., M2177.004900 Theory and Lab of IoT, AI, and Big Data @ SNU	FALL 2019
T.A., M2177.004900 Theory and Lab of IoT, AI, and Big Data @ SNU	SPRING 2019
T.A., M1522.001400 Introduction to Data Mining @ SNU	SPRING 2018
T.A., M1522.000900 Data Structure @ SNU	FALL 2017

In Other Organization

T.A., Hyundai AI Master @ Hyundai Motors	AUG. 2021, OCT. 2021
T.A., LG AI Education @ LG Chem	JAN. 2021, DEC. 2021
T.A., SK Univ @ SK Hynix	SEP. 2020 - NOV. 2020
T.A., DS^2 (1st-7th) @ Samsung Electronics	APR. 2018 - JUN. 2021

PROFESSIONAL SERVICES

PC Member, BigComp	2021 - 2022
External Reviewer, KDD	2019 - 2022
External Reviewer, WWW	2019 - 2021
External Reviewer, ICLR	2021
External Reviewer, NeurIPS	2020 - 2021
External Reviewer, CIKM	2018 - 2019
External Reviewer, ICDM	2018
External Reviewer, WSDM	2018

PROJECTS	Samsung Electronics, New Workload Detection	MAR. 2021 - DEC. 2021
	Star Lab, Flexible and Efficient Model Compression Method for Various Applications and Environments	APR. 2020 - FEB. 2020
	NC soft, Heterogeneous Graph Summarization for MMORPG Data	MAY 2019 - MAR. 2020
	NC soft, News map generation in News Articles	MAY 2018 - FEB. 2019
	NC soft, High-quality Triple Clustering in News Article	MAY 2017 - MAR. 2018
	HPC, Tensor library based on High Performance Computing	NOV. 2016 - MAR. 2019
GRADUATE COURSEWORK	M2177.003000 Advanced Data Mining @ SNU	FALL 2019
	4190.676 Artificial Neural Networks @ SNU	FALL 2019
	3394.506 Advanced Numerical Linear Algebra @ SNU	SPRING 2019
	M1522.002500 Quantum Computing and Information Fundamentals @ SNU	SPRING 2019
	430.502 Industrial Applications of Electrical and Electronic Technologies @ SNU	FALL 2018
	430.709A Convex Optimization @ SNU	FALL 2018
	4190.771 Topics in Algorithms (ML algorithms in bioinformatics) @ SNU	FALL 2018
	430.707A Pattern Recognition @ SNU	SPRING 2018
	4190.771 Topics in Algorithms (Compression) @ SNU	SPRING 2018
	M1522.001600 Topics in Big data Analytics @ SNU	FALL 2017
	M1522.000500 Information Visualization and Visual Analytics @ SNU	FALL 2017
	430.707A Advance Databases @ SNU	SPRING 2017
	M1522.001600 Topics in Big data Analytics @ SNU	SPRING 2017