JUN-GI JANG

CONTACT

Data Mining Laboratory
Building 301 #551-1
Seoul National University
1, Gwanak-ro, Gwanak-gu, Seoul
Republic of Korea 08826

Phone: +82–2–880–7263
Email: *elnino4 (at) snu.ac.kr*
Homepage: https://jungijang.github.io/

EDUCATION

M.S/Ph.D Student   MAR. 2017 - FEB. 2023 (EXPECTED)
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

AWARD
AND HONORS

1. **Best Paper Awards, Honorable Mention**, ICDE   MAY 2022
2. **SNU BK21 Star Researcher Award**, BK21   FEB. 2022
3. **Future Gauss Lecture Award**, Gauss Labs   FEB. 2022
4. **BK21 Best Graduate Student Award**, BK21   FEB. 2022
5. **Naver Ph.D. Fellowship Award**, Naver   DEC. 2021
6. **Qualcomm Innovation Fellowship**, Qualcomm   NOV. 2021
7. **Yulchon AI Star Fellowship**, Yulchon Foundation   SEP. 2021
8. **Best Paper Awards, Best Research Paper**, KDD   AUG. 2021
9. **Best Paper Awards, 1st Place**, BigComp   JAN. 2021
10. **Lecture/Research Scholarship**, Seoul National University   MAR. 2019 - AUG. 2021
11. **Humantech Paper Award (Honorable Mention, lead-author)**, Samsung   FEB. 2018

WORK
EXPERIENCE

Research Intern, HYPERCONNECT   JUL. 2020 - AUG. 2020

RESEARCH
INTERESTS

Tensor Analysis and Time Series Analysis

PUBLICATIONS

Conferences

C7. **Jun-Gi Jang**, Jeongyoung Lee, Jiwon Park, and U Kang, "Accurate PARAFAC2 Decomposition for Temporal Irregular Tensors with Missing Values", IEEE International Conference on Big Data (BigData), 2022, Osaka, Japan (oral presentation, acceptance rate $122/633 = 19.2\%$).

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 $(129 + 55)/568 = 32\%$).

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

J8. Hyunsik Jeon, **Jun-Gi Jang**, Taehun Kim, and U Kang, "Accurate Bundle Matching and Generation via Multitask Learning with Partially Shared Parameters", PLOS ONE. (To appear).

J7. **Jun-Gi Jang***, Chun Quan*, Hyun Dong Lee, and U Kang, "Falcon: Lightweight and Accurate Convolution Based on Depthwise Separable Convolution", Knowledge and Information Systems (KAIS). (To appear). (* equal contribution)

J6. **Jun-Gi Jang** and U Kang, "Static and Streaming Tucker Decomposition for Dense Tensors", ACM Transactions on Knowledge Discovery from Data (TKDD). It is the extended version of the conference paper C2.

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). It is the extended version of the conference paper C3.

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 (TKDD), 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

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).

INVITED TALKS

SNU AI Summer School 2022, SNU	AUG. 2022
Korea Computer Congress 2022, KIISE	JUN. 2022
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

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

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 - 2022
	External Reviewer, CIKM	2018 - 2019
	External Reviewer, ICDM	2018
	External Reviewer, WSDM	2018