

JUN-GI JANG

| | | |
|----------------------|---|--|
| CONTACT | University of Illinois at Urbana-Champaign Email: <i>jungi (at) illinois.edu</i> Homepage: https://jungijang.github.io/ | |
| RESEARCH INTERESTS | Tensor Mining and Time Series Analysis | |
| POSITIONS | Postdoctoral Researcher, UIUC <i>Advisor: Prof. Hanghang Tong</i> | AUG. 2023 - PRESENT |
| WORK EXPERIENCE | Postdoctoral Researcher, SNU <i>Advisor: Prof. U Kang</i> | MARCH 2023 - AUG. 2023 |
| | Research Intern, HYPERCONNECT | JUL. 2020 - AUG. 2020 |
| EDUCATION | M.S/Ph.D Student Computer Science and Engineering Seoul National University <i>Advisor: Prof. U Kang</i> | MAR. 2017 - FEB. 2023 |
| | Bachelor of Science Mechanical and Aerospace Engineering, Computer Science and Engineering (double major) Seoul National University | MAR. 2010 - FEB. 2017 |
| AWARD AND FELLOWSHIP | A7. Outstanding Dissertation Award, SNU CSE A6. Best Paper Awards, Honorable Mention, ICDE A5. SNU BK21 Star Researcher Award, SNU BK21 A4. BK21 Best Graduate Student Award, SNU BK21 A3. Best Paper Awards, 1st Place, BigComp A2. Best Paper Awards, Best Research Paper, KDD A1. Humantech Paper Award (Honorable Mention, lead-author), Samsung | FEB. 2023 MAY 2022 FEB. 2022 FEB. 2022 JAN. 2021 AUG. 2021 FEB. 2018 |
| | F6. Postdoctoral Fellowship Program, NRF of Korea F5. Future Gauss Lecture Award, Gauss Labs F4. Naver Ph.D. Fellowship Award, Naver F3. Qualcomm Innovation Fellowship, Qualcomm F2. Yulchon AI Star Fellowship, Yulchon Foundation F1. Lecture/Research Scholarship, Seoul National University | SEP. 2023 - AUG. 2024 FEB. 2022 DEC. 2021 NOV. 2021 SEP. 2021 MAR. 2019 - AUG. 2021 |

Conferences

- C8. **Jun-Gi Jang**, Jeongyoung Lee, Yong-chan Park, and U Kang, “Fast and Accurate Dual-Way Streaming PARAFAC2 for Irregular Tensors - Algorithm and Application”, The 29th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2023, Long Beach, CA, USA (acceptance rate $313/1416 = 22.1\%$).
- 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

- J10. **Jun-Gi Jang**, Sooyeon Shim, Vladimir Egay, Jeeyong Lee, Jongmin Park, Suhyun Chae, and U Kang, “Accurate Open-set Recognition for Memory Workload”, ACM Transactions on Knowledge Discovery from Data (TKDD), 2023.
- J9. Sooyeon Shim, Doyeon Kim, **Jun-Gi Jang**, and U Kang, “Fast and accurate interpretation of workload classification model”, PLOS ONE, March, 2023.
- 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, March, 2023.
- J7. **Jun-Gi Jang***, Chun Quan*, Hyun Dong Lee, and U Kang, “Falcon: Lightweight and Accurate Convolution Based on Depthwise Separable Convolution”, Knowledge and In-

formation Systems (KAIS), Jan., 2023. (* 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), Feb., 2023. 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

United States

- 1. U Kang, Suhyun Chae, Jongmin Park, **Jun-Gi Jang**, Jeeyong Lee, Sooyeon Shim, and Vladimir Egay, MEMORY TEST DEVICE (filed on Apr. 2023).

Korea

- 9. U Kang, **Jun-Gi Jang**, Jeongyoung Lee, Yong-chan Park, Apparatus and Method for Decomposing Irregular Tensors (filed on July 2023).
- 8. U Kang, **Jun-Gi Jang**, Jeongyoung Lee, Jiwon Park, Method and Apparatus for Decomposition for Temporal Irregular Tensors with Missing Values (filed on Jan. 2023).
- 7. U Kang, and **Jun-Gi Jang**, Apparatus and Method for Tensor Analysis (filed on May 2022).
- 6. U Kang, and **Jun-Gi Jang**, Apparatus and Method for Tensor Analysis (filed on Jul. 2021).
- 5. U Kang, Yongchan Park, and **Jun-Gi Jang**, Fast Partial Fourier Transform Method and Computing Apparatus for Performing the Same (filed on Apr. 2021).
- 4. U Kang, Dawon Ahn, and **Jun-Gi Jang**, Method for Tensor Decomposition with Temporal Dependency and Apparatus Therefor (filed on Mar. 2021).
- 3. U Kang, and **Jun-Gi Jang**, Method for Decomposing Tensor and Apparatus for Performing the Same (filed on Sep. 2020).
- 2. U Kang, Dongjin Choi, and **Jun-Gi Jang**, Data Analysis Method and Apparatus for Sparse Data (registered on Mar. 2020).
- 1. U Kang, **Jun-Gi Jang**, and Dongjin Choi, Apparatus and Method for Processing Data (registered on Jan. 2020).

| | | |
|--------------------------|---|-------------|
| | 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 , AAAI | 2024 |
| | Reviewer , Machine Learning journal | 2023 |
| | PC Member , KDD | 2023 |
| | Reviewer , TPDS journal | 2023 |
| | Reviewer , DAMI journal | 2023 |
| | 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 |