JOEL WOLFRATH

CURRICULUM VITAE

Personal Information

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EDUCATION

Ph.D., Computer Science, University of Minnesota, 2024
M.S., Statistics, Texas A&M University, 2018
B.S., Computer Science and Mathematics, Wisconsin Lutheran College, 2015

PROFESSIONAL EXPERIENCE

Adjunct Mathematics Faculty	Rochester Community and Technical College Rochester MN (2019)
Software Engineer	Amazon Web Services (AWS) Minneapolis, MN (2024-2025)
Software Engineer	IBM Rochester, MN (2015-2024)
Member	American Statistical Association (ASA)
Member	Association for Computing Machinery (ACM)

AWARDS

Best Poster Award – ACM/IEEE Symposium on Edge Computing (SEC)	2020
IBM Degree Work Study Program Award	2016
IBM Outstanding Technical Achievement Award	2020, 2022

SERVICE

Program Committee	ACM EuroSys (2026)
External Review Committee	USENIX ATC (2025)
Peer Reviewer	IEEE TMC (2024 – Present) IEEE TNNLS (2023 – Present)
External Reviewer	ACSOS (2020), IISWC (2020), ICDCS (2020, 2023) CCGRID (2022, 2023), IEEE Cloud (2024)

CONFERENCE PUBLICATIONS

1. **Joel Wolfrath**, Daniel Frink, and Abhishek Chandra. *SneakPeek: Data-Aware Model Selection and Scheduling for Inference Serving on the Edge, 16th ACM Symposium on Cloud Computing (SoCC).* November 2025 [to appear].
2. **Joel Wolfrath**, Anirudh Achanta, and Abhishek Chandra. *Leveraging Multi-Modal Data for Efficient Edge Inference Serving, 24th IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGrid).* May 2024.
3. **Joel Wolfrath** and Abhishek Chandra. *Plexus: Optimizing Join Approximation for Geo-Distributed Data Analytics,* Proceedings of the *14th ACM Symposium on Cloud Computing (SoCC)*, Santa Cruz, California, USA, Oct 2023.
4. **Joel Wolfrath** and Abhishek Chandra. Efficient Transmission and Reconstruction of Dependent Data Streams via Edge Sampling. Proceedings of the *10th IEEE International Conference on Cloud Engineering (IC2E)*, Pacific Grove, California, USA, Sep 2022.
5. **Joel Wolfrath,** Nikhil Sreekumar, Dhruv Kumar, Yuanli Wang, and Abhishek Chandra. HACCS: Heterogeneity-Aware Clustered Client Selection for Accelerated Federated Learning. Proceedings of the *36th IEEE International Parallel & Distributed Processing Symposium (IPDPS)*, (Virtual), May-June 2022.

WORKSHOP PAPERS / POSTERS

1. Dhruv Kumar, **Joel Wolfrath,** Abhishek Chandra and Ramesh Sitaraman. Towards WAN-Aware Join Sampling over Geo-Distributed Data. Proceedings of

the *5th International Workshop on Edge Systems, Analytics and Networking (EdgeSys 2022),* Rennes, France, April 2022.

2. Yuanli Wang, **Joel Wolfrath,** Nikhil Sreekumar, Dhruv Kumar, and Abhishek Chandra. Accelerated Training via Device Similarity in Federated Learning. Proceedings of the *4th International Workshop on Edge Systems, Analytics and Networking (EdgeSys 2021),* (Virtual), April 2021.
3. **Joel Wolfrath** and Abhishek Chandra. Data-Aware Edge Sampling for Aggregate Query Approximation. Poster in the *Fifth ACM/IEEE Symposium on Edge Computing (SEC),* (Virtual), November 2020. ***Best Poster Award.***

PATENTS

1. **Joel Wolfrath**, et al. Hypervisor having local keystore. US Patent 11,809,568, 2023.

TECH REPORTS

1. **Joel Wolfrath** and Abhishek Chandra. A Biased Estimator for MinMax Sampling and Distributed Aggregation, 2024. https://arxiv.org/abs/2404.17690