


BEOMYEOL JEON

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EDUCATION

- University of Illinois Urbana-Champaign**, Urbana, IL May 2024 (Expected)
Ph.D in Computer Science. GPA: 3.97/4.0
- Seoul National University**, Seoul, Korea Feb 2016
B.S. in Computer Science and Engineering (*summa cum laude*). GPA: 4.0/4.3
- The University of Texas at Austin**, Austin, TX Jan 2015 – May 2015
Undergraduate Exchange Student in Computer Science. GPA: 3.91/4.0

SELECTED WORK EXPERIENCE

- University of Illinois Urbana-Champaign** Aug 2016 – Present
Graduate Research Assistant. Advisor: Prof. Indranil Gupta Urbana, IL
- Worked on a fast device placement system for ML graph operators via an algorithmic approach. Our tool generates expert-level quality placements $654 \times -206K \times$ faster than the state-of-the-art ML-based approaches [code].
 - Worked on an intelligent SLO-aware autoscaling framework for ML inference jobs by collaborating with IBM Research. Our approach achieves $1.7 \times -22 \times$ lower SLO violations compared to state-of-the-art systems [code (private)].
 - Working on an automatic system configuration optimizer for Graph Neural Network training on AWS Lambda.
- Nokia Bell Labs** Jun 2019 – Aug 2019
Research Intern. Mentor: Dr. Muntasir Raihan Rahman and Dr. Anwar Walid Murray Hill, NJ
- Worked on designing a privacy-preserving decentralized aggregation protocol for federated learning [code].
- Google** May 2018 – Aug 2018
Software Engineering Intern. BigQuery Team. Mentor: Dr. Mohsen Vakilian Kirkland, WA
- Built an autotuner for BigQuery system configuration parameters to improve performance via black-box optimization.
- Google** May 2017 – Aug 2017
Software Engineering Intern, Earth Engine Team. Mentor: Dr. Hector Gonzalez Mountain View, CA
- Designed and built a framework for large-scale GIS batch computation on top of Google Cloud Dataflow from scratch.

SELECTED PUBLICATIONS

- Beomyeol Jeon**, Yongjoo Park, Indranil Gupta. *Automating Resource Allocation for Graph Neural Network Training on Serverless Frameworks*, Currently Under Preparation, 2024.
- Beomyeol Jeon**, Chen Wang, Diana Arroyo, Alaa Youssef, Indranil Gupta. *SLO-aware ML Inference Autoscaler for Fixed-Size On-Premises Clusters*, Under Review at a Conference, 2024.
- Beomyeol Jeon***, S M Ferdous*, Muntasir Raihan Rahman, Anwar Walid. *Privacy-preserving Decentralized Aggregation for Federated Learning*. FOGML 2021. [link, code, extended version]
- Beomyeol Jeon**, Linda Cai, Pallavi Srivastava, Jintao Jiang, Xiaolan Ke, Yitao Meng, Cong Xie, Indranil Gupta. *Baechi: Fast Device Placement of Machine Learning Graphs*. SoCC 2020. [link, code, extended version]

SELECTED TECHNICAL SKILLS

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|-----------------------------------|---|
| Languages | C/C++, Python, Go, Java, C# |
| Frameworks & Platforms | PyTorch, TensorFlow, Ray, Kubernetes, Docker, AWS EC2, AWS Lambda |
| Libraries | Boost, Eigen, OpenMP, ZeroMQ, Protocol Buffers, Cap'n Proto, Scikit-learn |
| Databases | Redis, Microsoft SQL Server |