JEEHO RYOO

Assistant Professor
Olsen College of Engineering and Science, Fairleigh Dickinson University
239-842 Cambie Street, Vancouver, BC V6B 2P6
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778-726-4199

RESEARCH INTERESTS

- **Computer architecture**: novel execution and dataflow mechanisms that improve performance and scalability in computing platforms.
- **Memory Systems**: advanced refresh control and access scheduling techniques that mitigate latency, energy, and security vulnerabilities in DRAM.
- **Performance, energy efficiency, and hardware/software co-design**: cross-layer optimization frameworks that coordinate runtime decisions with microarchitectural control to maximize various efficiency metrics.
- **Emerging workload and system characterization**: empirical workload studies of LLMs, graph analytics, and data-centric pipelines to inform future system and memory hierarchy designs.
- **Education and learning technology**: AI-driven learning support systems that strengthen conceptual modeling, self-regulated learning, and feedback transparency in engineering courses.

ACADEMIC APPOINTMENTS

Assistant Professor — May 2024 – Present
Olsen College of Engineering and Science, Fairleigh Dickinson University, Vancouver, BC

Instructor — August 2021 – April 2024
British Columbia Institute of Technology, Vancouver, BC, Canada

EDUCATION

The University of Texas at Austin, College of Engineering, Austin, TX — May 2017
Doctor of Philosophy in Electrical and Computer Engineering (Advisor: Lizy K. John)

The University of Texas at Austin, College of Engineering, Austin, TX — May 2014
Master of Science in Electrical and Computer Engineering (Advisors: Lizy K. John)

Cornell University, College of Engineering, Ithaca, NY — May 2011
Bachelor of Science in Electrical and Computer Engineering (Advisors: David H. Albonesi and Christopher Batten)

PUBLICATIONS

- **Conference Proceedings**

Year: 2026

Weidong Zhang, Yongchan Jung, Muhammad Ali Khaliq, Enkhzaya Chuluunbaatar, Byeong Kil Lee, and **Jeeho Ryoo**, “Lesion-DDPM: Lesion-Enhanced 3D Diffusion for MS MRI Synthesis” *In the Proceedings of IEEE International Symposium on Biomedical Imaging (ISBI)*, London, UK, April, 2026 (under review)

Jing Yi Huang, S. Q. Yap, Michael Pin-Chuan Lin, Daniel Chang, and **Jeeho Ryoo**, "Towards Procedural Transparency in the Use of Large Language Models for Qualitative Analysis: A Systematic Review in Educational Research," *In the Proceedings of the International Conference on Intelligent Tutoring Systems (ITS)*, Pafos, Cyprus, June, 2026.

Gerald Tembrevilla, Weidong Zhang, G. Michael Bowen, Michael Pin-Chuan Lin, Darryl Roy Montebon, and **Jeeho Ryoo**, “Where are the teachers? Rethinking AR/VR research in teacher education” *In the*

Proceedings of the Annual Conference and Exposition American Society for Engineering Education (ASEE), Charlotte, NC, USA, June, 2026

Michael Pin-Chuan Lin, Gurdeep Jhajj, Daniel Chang, Fan Lin, Eric Poitras, and **Jeeho Ryoo**, "Generative AI's Role in Computer Science Classrooms: A Rapid Mapping Review," *In the Proceedings of the Washington DC Conference on Education (WCE)*, Washington D.C., USA, April, 2026.

Michael Pin-Chuan Lin, Eric Poitras, Gian Tembrevilla, G. Michael Bowen, Daniel H. Chang, Nikki Lobczowski, Jing Yi Huang, Yu-Feng Lan, and **Jeeho Ryoo**, "Amplifier or Substitute? A Rapid Review of Generative AI in Higher Education Active Learning Tasks and Self-Regulated Learning," *In the Proceedings of the Society for Information Technology & Teacher Education International Conference (SITE)*, Philadelphia, PA, USA, March, 2026.

Jeeho Ryoo, Yongchan Jung, Weidong Zhang, Muhammad Ali Khaliq, and Byeong Kil Lee, "Performance Analysis and Optimization of 3D Generative Diffusion Models across GPU Architectures" *In the Proceedings of IEEE International Conference on Performance Engineering (ICPE)*, Florence, Italy, May, 2026

Michael P. C. Lin, Eric Poitras, Gerald Tembrevilla, G, Mike Bowen, Nikki Lobczowski, Daniel Chang, Jia-Yin Huang, Yu-Fang Lan, and **Jeeho Ryoo**, "Amplifier or Substitute? A Rapid Review of Generative AI in Higher Education Active Learning Tasks and Self-Regulated Learning," *In the Proceedings of the Society for Information Technology & Teacher Education International Conference (SITE)*, Philadelphia, PA, March, 2026.

Year: 2025

Xianjing Zhang, **Jeeho Ryoo**[*], and Sourav Mukherjee[*], "Detection of Body Focused Repetitive Behaviors Using Deep Learning" *In the Proceedings of 7th IEEE Computers, Communications and IT Applications Conference (ComComAP)*, Madrid, Spain, December, 2025. ([*]equal contribution)

Ruihao Li, Shagnik Pal, Vineeth Narayan Pullu, Prasoon Sinha, **Jeeho Ryoo**, Lizy K. John, and Neeraja J. Yadwadkar. "Oneiros: KV Cache Optimization through Parameter Remapping for Multi-tenant LLM Serving" *In the Proceedings of ACM Symposium on Cloud Computing (SoCC)*, Virtual, November, 2025

Jeeho Ryoo[*], Michael Pin-Chuan Lin[*], Sahil Rai, Wenhao He, Seong Min Park, and Marco Ho. "WIP: Multi-Agent Artificial Intelligence Model to Enhance Self-Regulated Learning and Conceptual Understanding in Computer Science Education" *In the Proceedings of IEEE Frontiers in Education Conference (FIE)*, Nashville, TN, USA, November, 2025. ([*]equal contribution)

Shagnik Pal, **Jeeho Ryoo**, and Lizy K. John. "The Curious Case of Global Stable Loads" *In the Proceedings of IEEE International Symposium on Workload Characterization (IISWC)*, Irvine, CA, October, 2025

Marco Ho, Carly Orr, Rebecca Jeon, Michael Pin-Chuan Lin, and **Jeeho Ryoo**. "AI Literacy Through a Project-Based Learning Course" *In the Proceedings of IEEE Smart World Congress (SWC)*, Calgary, AB, Canada, August, 2025.

Michael Pin-Chuan Lin, Fuhua Lin, Yu-Feng Lan and **Jeeho Ryoo**. "Perceiving Generative AI in Teacher Practice: a Design-Based Case Study in a Graduate Course" *In the Proceedings of IEEE Smart World Congress (SWC)*, Calgary, AB, Canada, August, 2025.

Muge Zhang, Muhammad Ali Khaliq, Byeong Kil Lee, and **Jeeho Ryoo**. "Synthetic Magnetic Resonance Imaging Generation for the Diagnosis of Alzheimer's Disease using Machine Learning" *In the Proceedings of 8th IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR)*, San Jose, CA, USA, August, 2025.

Michael Pin-Chuan Lin, Arita Li Liu, Saeed Saffari, Daniel Chang, and **Jeeho Ryoo**. "Mapping AI Tools in Education: A Topic Modeling Analysis of Cognitive, Metacognitive, & Affective Insights" *In*

Proceedings of the 21st International Conference on Intelligent Tutoring Systems (ITS), Alexandroupolis, Greece, June 2025

Seong Min Park, Marco Ho, Michael Pin-Chuan Lin, and **Jeeho Ryoo**. "Evaluating the Impact of Assistive AI Tools on Learning Outcomes and Ethical Considerations in Programming Education" *In the Proceedings of the 16th IEEE Global Engineering Education Conference (EDUCON)*, London, UK, April 2025.

Saeed Saffari, Michael Pin-Chuan Lin, Oscar Lin, and **Jeeho Ryoo**. "Investigating Open-Source Large Language Models in Digital Pedagogies" *In the Proceedings of the 18th International Conference on e-Learning & Innovative Pedagogies*, Changhua City, Taiwan, April 2025.

Year: 2024

Muge Zhang, Dae Yeol Lee, Vasudevan Janarthanan, and **Jeeho Ryoo**, "Microarchitectural Analysis of Pre-Processing Stage in Machine Learning Workloads" *In Proceedings of the 7th IEEE International Conference on Algorithms, Computing and Artificial Intelligence (ACAI)*, Guangzhou, China, December 2024.

Year: 2023

Kumar, Shvetha S., Reshma R. Nayak, Jismi S. Kannampuzha, Sahil Rai, **Jeeho Ryoo**, and Lizy K. John. "Evaluation of Pruning Techniques" *In the proceedings of the 43rd IEEE International Performance, Computing, and Communications Conference (IPCCC)*, Anaheim, CA, USA, November 2023.

Jensen, Steffen, Jaekyu Lee, Dam Sunwoo, Matt Horsnell, Matthew Siggs, **Jeeho Ryoo**, and Lizy John. "Do Video Encoding Workloads Stress the Microarchitecture?" *In the proceedings of the IEEE International Symposium on Workload Characterization (IISWC)*, Ghent, Belgium, October 2023.

Year: 2018

Jee Ho Ryoo, Shuang Song and Lizy K. John, "Puzzle Memory: A Multifractional Partitioned Heterogeneous Memory Scheme" *In the Proceedings of the 36th IEEE International Conference on Computer Design (ICCD)*, Orlando, FL, USA, October 2018.

Jee Ho Ryoo, Lizy K. John, and Arkaprava Basu, "A Case for Granularity Aware Page Migration" *In the Proceedings of the 32nd ACM International Conference on Supercomputing (ICS)*, Beijing, China, June 2018.

Year: 2017

Yashwant, Marathe, Nagendra Gulur, **Jee Ho Ryoo**, Shuang Song, and Lizy K. John, "CSALT: Context Switch Aware Large TLB" *In the Proceedings of the 50th ACM/IEEE International Symposium on Microarchitecture (MICRO)*, Boston, MA, USA, October 2017.

Jee Ho Ryoo, Nagendra Gulur, Shuang Song and Lizy K. John, "Rethinking TLB Designs in Virtualized Environments: A Very Large Part-of-Memory TLB" *In the Proceedings of the 44th ACM/IEEE International Symposium on Computer Architecture (ISCA)*, Toronto, ON, Canada, June 2017.

Jee Ho Ryoo, Mitesh R. Meswani, and Lizy K. John, "SILC-FM: Subblocked InterLeaved Cache-Like Flat Memory Organization" *In the Proceedings of the 23rd IEEE International Conference on High Performance Computer Architecture (HPCA)*, Austin, TX, USA, February 2017.

Year: 2016

Shuang Song, Meng Li, Xinnian Zheng, **Jee Ho Ryoo**, Reena Panda, Michael LeBeane, Andreas Gerstlauer, and Lizy K. John, "Proxy-Guided Load Balancing of Graph Processing Workloads on Heterogeneous Clusters" *In the Proceedings of the 45th International Conference on Parallel Processing (ICPP)*, Philadelphia, PA, USA, August 2016.

Reena Panda, Xinnian Zheng, **Jee Ho Ryoo**, Michael LeBeane, Shuang Song Andreas Gerstlauer, and Lizy K. John, "Genesys: Automatically Generating Representative Training-sets" *In the Proceedings of*

the 16th International Conference on Embedded Computer Systems: Architecture, Modeling, and Simulation (SAMOS), Samos Island, Greece, July 2016.

Year: 2015

Michael LeBeane, Shuang Song, Reena Panda, **Jee Ho Ryoo**, and Lizy K. John, "Data Partitioning Strategies for Graph Workloads in Heterogeneous Clusters" *In the Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis (SC)*, Austin, TX, USA, November 2015.

Jee Ho Ryoo, Karthik Ganesan, Yao-Min Chen, and Lizy K. John, "i-MIRROR: A Software Managed Die-Stacked DRAM-Based Memory Subsystem" *In the Proceedings of the 27th IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD)*, Florianopolis, Brazil, October 2015.

Michael LeBeane, **Jee Ho Ryoo**, Reena Panda, and Lizy K. John, "WattWatcher: Fine-Grained Power Estimation For Emerging Workloads" *In the Proceedings of the 27th IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD)*, Florianopolis, Brazil, October 2015.

Reena Panda, Christopher Erb, Michael LeBeane, **Jee Ho Ryoo**, and Lizy K. John, "Performance Characterization of Modern Databases on Out-of-order CPUs" *In the Proceedings of the 27th IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD)*, Florianopolis, Brazil, October 2015.

Jee Ho Ryoo, Saddam Quirem, Michael LeBeane, Reena Panda, Shuang Song, and Lizy K. John, "GPGPU Benchmark Suites: How Well Do They Sample the Performance Spectrum" *In the Proceedings of the 44th International Symposium on Parallel Processing (ICPP)*, Beijing, China, September 2015. **(Best Paper Runner-Up)**

Wooseok Lee, Youngchun Kim, **Jee Ho Ryoo**, Dam Sunwoo, Andreas Gerstlauer, and Lizy K. John, "PowerTrain: A Learning-based Calibration of McPAT Power Models" *In the Proceedings of the ACM/IEEE International Symposium on Low Power Electronics and Design (ISLPED)*, Rome, Italy, July 2015.

Year: 2013

Mohammad Faisal Iqbal, Jim Holt, **Jee Ho Ryoo**, Gustavo De Veciance, and Lizy K. John, "Flow Migration on Multicore Network Processors: Load Balancing While Minimizing Packet Reordering" *In the Proceedings of the 42nd International Conference on Parallel Processing (ICPP)*, Lyon, France, October 2013.

Year: 2012

Jinsuk Chung, Ikhwan Lee, Michael Sullivan, **Jee Ho Ryoo**, Don Wan Kim, Doe Hyun Yoon, Larry Karplan, and Mattan Erez, "Containment Domains: A Scalable, Efficient, and Flexible Resilience Scheme for Exascale Systems" *In the Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis (SC)*, Salt Lake City, UT, USA, November 2012.

- **Journals**

Year: 2026

Michael Pin-Chuan Lin, Jing Yi Huang, Daniel H. Chang, Gian Tembrevilla, G. Michael Bowen, Eric Poitras, Vikram Janarthanan, and **Jeeho Ryoo**, "Mapping Open-Source Large Language Models in Education: A Narrative Review of Evidence, Pedagogical Roles, and Learning Outcomes," *AI in Education*, 2026.

Michael Pin-Chuan Lin, Daniel Chang, Vivien Lin, **Jeeho Ryoo**, "Meta-Analysis of Argument Visualization Tools in Higher Education: Examining Effects on Student Achievement and Moderating Factors" *In Technology, Knowledge and Learning*, 2026.

Year 2016

Mohammad Faisal Iqbal, Jim Holt, **Jee Ho Ryoo**, Gustavo de Veciana and Lizy K. John, "Dynamic Core Allocation and Packet Scheduling in Multicore Network Processors" *In IEEE Transactions on Computers*, vol. 65, no. 12, December, 2016.

Year: 2013

Jinsuk Chung, Ikhwan Lee, Michael Sullivan, **Jee Ho Ryoo**, Don Wan Kim, Doe Hyun Yoon, Larry Karplan and Mattan Erez, "Containment Domains: A Scalable, Efficient, and Flexible Resilience Scheme for Exascale Systems" *In the Journal of Scientific Programming*, vol. 21, no. 3-4, 2013.

- **Workshop and Posters**

Year: 2025

Cory Davis, Patrick Stockton, Eugene B. John, **Jeeho Ryoo**, and Ebod Shojaei, "Hardware Acceleration for Graph Neural Networks," In the Proceedings of the 23rd ACM International Conference on Computing Frontiers (Posters), 2026.

Year: 2025

Patrick Stockton, Cory Davis, **Jeeho Ryoo**, and Eugene John, "Accelerating Neuro-Symbolic AI with CUTLASS-Optimized CUDA Kernels" *8th IBM/IEEE AI Compute Symposium*, Yorktown Heights, NY, USA, November, 2025. (Poster)

Ebod Shojaei, Wenyun Dai, Anshul Jha, Eugene John, and **Jeeho Ryoo**, "Hardware-Based Reinforcement Learning for Adaptive Dynamic Voltage and Frequency Scaling" *8th IBM/IEEE AI Compute Symposium*, Yorktown Heights, NY, USA, November, 2025. (Poster)

Cory Davis, Patrick Stockton, **Jeeho Ryoo**, and Eugene John. "Improving Energy Efficiency of Graph Neural Network Execution by using a PIM Architecture" *The 1st International Workshop on Data Centers Energy Efficiency (DCEE-2025)*, Tokyo, Japan, June, 2025. (Workshop)

Cory Davis, Patrick M. Stockton, Muge Zhang, **Jeeho Ryoo**, and Eugene John, "Microarchitectural Characterization of LightGCN and ExpressGNN and Architectural Implications" *High Performance, Edge And Cloud computing (HiPEAC)*, Barcelona, Spain, January, 2025 (Poster)

Year: 2016

Jee Ho Ryoo, Mitesh R. Meswani, Reena Panda, and Lizy K. John, "SILC-FM: Subblocked InterLeaved Cache-Like Flat Memory Organization" *International Conference on Parallel Architecture and Compilation Techniques (PACT)*, Haifa, Israel, September, 2016.

Year: 2014

Jee Ho Ryoo, Michael LeBeane, Mohammad Faisal Iqbal, and Lizy K. John, "Control Flow Behavior of Cloud Workloads" *International Conference on Workload Characterization (IISWC)*, Raleigh, NC, USA October, 2014.

GRANTS AND IN-KIND CONTRIBUTIONS

Social Sciences and Humanities Research Council (SSHRC) – Insight Development Grants (IDG) (Under Review)

- Title: Emotion-Aware Learning Supports for Equitable Computing Education
- 99,040 CAD (2026-2028)
- Applicant: Michael Marco Ho (30%)
- Co-Applicant: Nikki Lobczowski (20%), Michael Pin-Chuan Lin (20%), Daniel Chang (20%)
- Collaborator: **Jeeho Ryoo** (10%)

National Science Foundation (NSF) – Future Computing Research (Future CoRe)(Under Review)

- Title: Collaborative Research: SHF: Architecture-Aware Hardware–Software Co-Design for Efficient Neuro-Symbolic AI Acceleration
- 1,000,000 USD (2026-2030)

- Principal Investigator: Eugene John (66%), **Jeeho Ryoo** (35%)

National Science Foundation (NSF) – Collaborative Research in Computational Neuroscience (CRCNS)(Under Review)
- Title: Hardware-Optimized Dual-Conditioned Diffusion Models Unifying Multicontrast MRI Synthesis and AD-MS Cross-Domain Learning
- 657,695 USD (2026-2029)
- Principal Investigator: Byeong Kil Lee (61%), **Jeeho Ryoo** (39%)

National Science Foundation (NSF) – Research Initiation in Engineering Formation (PFE: RIEF)(Under Review)
- Title: Hybrid Professional and Ethical Formation of Civil and Computer Engineers in Data-Driven Building and Infrastructure Inspection
- 200,000 USD (2026-2027)
- Principal Investigator: Hyungjoo Choi (13%), Husam Najm (21%), Eugene John (21%), Alexandra Patzak (35%)
- Co-Principal Investigator: **Jeeho Ryoo** (10%)

Social Sciences and Humanities Research Council (SSHRC) – Insight Grants (IG)
- Title: Tracing Self-Regulated Learning in Computer Science Education with an AI-Enhanced Learning Tool
- 415,539 CAD (2026-2030)
- Applicant: Michael Pin-Chuan Lin (20%)
- Co-Applicant: Maiga Chang (20%), Daniel Chang (20%)
- Collaborator: **Jeeho Ryoo** (20%), Marco Ho (10%), Philip Winne (10%)

Fairleigh Dickinson University Grant-in-Aid
- Title: Reinforcement Learning Approaches for Memory Vulnerability
- 2,000 USD (2025-2026)
- Principal Investigator: **Jeeho Ryoo** (100%)

Google Cloud Research Credits
- Title: Synthetic Input Generation for Alzheimer's Disease
- 6921.75 USD (2024-2025)
- Principal Investigator: **Jeeho Ryoo** (100%)

PROFESSIONAL EXPERIENCES

Senior Performance Engineer — February 2018 – March 2019
ARM Inc., San Jose, CA
- Implemented DRAM cache simulation infrastructure modeling future ARM server systems
- Developed caching and prediction schemes tailored for emerging memory technology

Senior Software Engineer — July 2017 – February 2018
Oracle Corporation, Santa Clara, CA
- Identified bottleneck in Transparent Huge Pages (THP) when running enterprise applications
- Analyzed cloud application performance across various hardware platforms

Research Engineering Intern — May 2016 – December 2016
Advanced Micro Devices, Austin, TX
- Proposed granularity aware migration schemes in heterogeneous memory systems
- Implemented dynamic granularity migration schemes on Linux kernel running on real x86-64 systems

Research Engineering Intern — September 2015 – December 2015
Advanced Micro Devices, Austin, TX
- Proposed bandwidth efficient and high capacity utilization die-stacked DRAM management policy
- Developed heterogeneous memory simulation platform incorporating emerging memory technologies

Software Engineering Intern — May 2013 – August 2013

Oracle Corporation, Santa Clara, CA
- Proposed hardware-assisted, software-managed die-stacked DRAM management policy
- Evaluated the proposed scheme with commercial benchmarks such as SPECjbb, SPECjEnterprise, TPC-C

Performance Architecture Intern May 2012 – August 2012
Samsung Austin R&D Center, Austin, TX
- Developed the SimPoint tool for ARM ISA to analyze various Android benchmarks
- Evaluated various power-efficient floating point schedulers using the Gem5 simulator

Graduate Research Assistant August 2011 – May 2017
Laboratory for Computer Architecture, The University of Texas at Austin, Austin, TX
- Proposed management policies for high bandwidth, low latency die-stacked DRAM technology
- Developed other uses of die-stacked DRAM such as a large TLB in virtual platforms

Undergraduate Research Assistant June 2010 – May 2011
Computer Systems Laboratory, Cornell University, Ithaca, NY
- Developed a digital ASIC tool-flow chain to synthesize the Verilog MIPS R10K microprocessor model
- Incorporated clock gating techniques at the functional block level (e.g. ALU, ROB) for power efficiency

Project Team Co-Director – Big Red Chip September 2010 – May 2011
Computer Systems Laboratory, Cornell University, Ithaca, NY
- Designed a superscalar OOO processor and on-board I/O interfaces on Xilinx Virtex-6 FPGA
- Provided project design guidelines for 5 sub-design teams and managed the project deadline

TEACHING EXPERIENCES

Assistant Professor in Olsen College of Engineering and Science
Fairleigh Dickinson University, Vancouver, BC
- CSCI 6806 – Computer Science Graduate Capstone Project (Fall 2025, Summer 2025, Spring 2025, Fall 2024, Summer 2024)
- CSCI 5565 – Assembly Programming (Fall 2025, Summer 2024)
- INFO 4201– Information Technology Needs Assessment and Management (Fall 2025)

Faculty in the School of Computing and Academic Studies
British Columbia Institute of Technology, Vancouver, BC
- COMP 2510 – Procedural Programming in C (Winter 2022, Fall 2022, Winter 2023, Fall 2023)
- COMP 3522 – Object Oriented Programming 2 (Fall 2021, Winter 2022)
- COMP 4736 – Introduction to Operating Systems (Winter 2023)
- COMP 4800 – Projects Practicum 2 (Spring 2023)
- COMP 7035 – Operating Systems (Fall 2023)

Teaching Assistant
Electrical and Computer Engineering, The University of Texas at Austin, Austin, TX
- EE306 (Instructor: Yale Patt) – Introduction to Computing (Fall 2011)
- EE382N (Instructor: Lizy John) – Performance Evaluation and Benchmarking (Fall 2014)
- EE460N (Instructor: Mattan Erez) – Computer Architecture (Spring 2012)

Teaching Assistant
Electrical and Computer Engineering, Cornell University, Ithaca, NY
- ENGRD2300 (Instructors: David H. Albonesi, Adam W. Bojanczyk, José F. Martinez, and Edward G. Suh) – Introduction to Digital Logic Design (Spring 2010, Fall 2010, Spring 2011)

ACADEMIC SERVICES AND PROFESSIONAL MEMBERSHIP

Professional Membership
- Member, IEEE
- Member, IEEE Education Society

- Member, ACM

Chair
- IEEE Frontier in Education (FIE) Session Ethics and Policy in AI Education: Developing Competencies for Responsible Technology Use: 2025 (Session Chair)
- IEEE International Workshop on Smart Education in the Age of Generative AI (SEGA): 2025 (General Co-Chair)

Technical Program Committee
- IEEE International Conference on High Performance Computer Architecture (HPCA): 2025
- IEEE International Conference on Performance, Computing and Communications (IPCCC): 2025, 2024
- IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC'25): 2025
- IEEE International Parallel and Distributed Processing Symposium (IPDPS): 2025
- Supercomputing India (SCI): 2025

Reviewer
- ACM Computing Surveys: 2026, 2025, 2024
- ACM Transactions on Software Engineering and Methodology (TOSEM): 2025
- ACM/SIGAPP Symposium on Applied Computing (SAC): 2025
- IEEE Frontier in Education (FIE): 2026, 2025
- IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC): 2025
- IEEE Transactions on Computers (TC): 2015
- ASEE Computers in Education (CoED): 2026
- Simulation Modelling Practice and Theory (SIMPAT): 2016

Student Volunteer
- IEEE International Symposium on Workload Characterization (IISWC): 2011
- ACM/SPEC International Conference on Performance Engineering (ICPE): 2015

UNIVERSITY SERVICES

Chair
- Research Release Time (RRT) Committee, Gildart Haase School of Computer Sciences and Engineering: 2025

Committee Member
- Office of Grants and Sponsored Project Research Council: 2025-Present
- Elections Committee, Olsen College of Engineering and Science: 2025-Present
- Search Committee for the Chair of the Department of Computer Science and Math, Olsen College of Engineering and Science: 2025
- Search Committee for the Director of Gildart Haase School of Engineering, Olsen College of Engineering and Science: 2025

Supervisor of Industry Sponsored Projects
- BinanceUS: Fall 2024
- UnifiedAI: Fall 2024

University Recruitment Representative
- FDU Vancouver Open House: Fall 2025
- QS Discover Master's Fair: Fall 2024

STUDENTS

Ph.D. Students
- Cory Davis (UTSA): 2024-Present
- Patrick Stockton (UTSA): 2024-Present
- Shafayat Mowla Anik (UCCS): 2025-Present

- Jing-Yuan (Alex) Huang (SFU): 2025-Present

M.S. Students
- Yongchan Jung (FDU): 2025-Present
- Dazhi (Alex) Yang (FDU): 2025-Present
- Seong Min Park, MS (FDU): 2025-Present

Past Students
- Jiatong Han (FDU): 2025-2026
- Xianjing (Chloe) Zhang (FDU): 2025
- Weidong Zhang, MS (Northeastern University): 2025 – 2026
- Ebod Shojaei (BCIT): 2024-2026
- Muhammad Ali Khaliq (UCCS): 2025-2025
- Sahil Rai, BS (BCIT): 2023-2025
- Jinxin Yin, MS (FDU): 2025
- Muge Zhang, MS (FDU): 2024-2025
- Rebecca Jeon, BS (University of Victoria): 2025

PATENTS

Intelligently Partitioning Data Cache to Allocate Space for Translation Entries
Inventors: Lizy K. John, Yashwant Marathe, **Jee Ho Ryoo**, and Nagendra Gulur.
US Patent US10261915B2, Issued on April 16, 2019

Methodology to Utilize Heterogeneous Memories with Variable Properties
Inventors: Lizy K. John, **Jee Ho Ryoo**, Hung-Ming Hsu, and Karthik Ganesan.
US Patent US20180260323A1, Issued on January 26, 2021

Page-Migration with Varying Granularity
Inventors: Arkaprava Basu and **Jee Ho Ryoo**.
US Patent US10503658B2, Issued on December 10, 2019

Processor Using a Level 3 Translation Lookaside Buffer Implemented in Off-Chip or Die-Stacked Dynamic Random-Access Memory
Inventors: Lizy K. John, **Jee Ho Ryoo**, and Nagendra Gulur
US Patent US10296465B2, Issued on May 21, 2019

Data Block Sizing for Channels in a Multi-Channel High-Bandwidth Memory
Inventors: **Jee Ho Ryoo** and Mitesh R. Meswani.
US Patent US10503655B2, Issued on December 10, 2019

Low Latency, High Bandwidth Memory Subsystem Incorporating Die-Stacked DRAM
Inventors: **Jee Ho Ryoo**, Karthik Ganesan, and Yao-Min Chen.
US Patent US20150279436A1, Issued on August 2, 2016

INVITED TALKS

"Future of Computing and AI Impact," *Vancouver Korean IT Conference*, Vancouver, BC, July 15, 2023

AWARDS

Samsung Award of Excellence (2012) – Intern award recipient for excellent work performance
Engineering Learning Initiatives (2010) – Motorola research funding recipient for two semesters
Roger Berman '70 Memorial Prize (2010) – Top presentation student in engineering communications program