

# Anand Jayarajan

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## Education

- Sep 2019 - **University of Toronto, Canada.**  
present PhD in Computer Science  
GPA: 4.00/4.00
- Sep 2017 - **University of British Columbia, Canada.**  
Sep 2019 Master of Science in Computer Science  
Average Grade: 96.2%
- Jul 2008 - **National Institute of Technology Calicut, India.**  
May 2012 Bachelor of Technology in Computer Science and Engineering  
GPA: 8.18/10

## Work Experience

- Jun 2025 - **Nvidia, Toronto, Canada.**  
Present System Software Manager  
Building efficient and optimal systems for data center scale AI
- Mar 2022 - **CentML Inc., Toronto, Canada.**  
Jun 2025 Co-founder and Chief Software Architect  
Architect and lead of CentML Platform for efficient AI training and inference
- May 2018 - **Vector Institute, Toronto, Canada.**  
Aug 2018 Intern  
Analyzed the performance and cost-effectiveness of Nvidia and AMD GPUs using TBD benchmark suite. My analysis were used to make decisions about hardware procurement at Vector institute.
- Sep 2016 - **Indian Institute of Technology, Delhi, India.**  
June 2017 Research Assistant  
Worked on building a software-based emulator for hardware virtualization technology called AMD SVM.
- Feb 2016 - **Flipkart Internet Pvt Ltd, Bangalore, India.**  
Sep 2016 Software Development Engineer II  
Worked in the pricing team at the largest E-commerce company in India. I built and maintained the infrastructure that makes real-time decisions on the pricing of different products in the Flipkart website.
- Dec 2014 - **Vizury Interactive Solutions Pvt Ltd, Bangalore, India.**  
Jan 2016 Software Engineer  
Worked in the platform team of the online advertisement startup. I maintained the Real-Time Bidding (RTB) infrastructure that handles millions of advertising requests per second.
- Jun 2012 - **Oracle India Pvt Ltd, Bangalore, India.**  
Sep 2014 Member of Technical Staff  
Worked in the globalization team at Oracle. I built tools that automatically translates Oracle products to different languages.

## Publications

- ASPLOS '25 **Tally: Non-Intrusive Performance Isolation for Concurrent Deep Learning Workloads.**  
Wei Zhao, **Anand Jayarajan**, Gennady Pekhimenko.  
In *proceedings of the 30th International Conference on Architectural Support for Programming Languages and Operating Systems 2025*
- MLHC '24 **Needles in Needle Stacks: Meaningful Clinical Information Buried in Noisy Sensor Data.**  
Sujay Nagaraj, Andrew J Goodwin, Dmytro Lopushanskyy, Sebastian David Goodfellow, Danny Eytan, Hadrian Balaci, Robert Greer, **Anand Jayarajan**, Azadeh Assadi, Mjaye Leslie Mazwi, Anna Goldenberg.  
In *proceedings of the 9th Machine Learning for Healthcare Conference, PMLR 252, 2024*

- USENIX ATC '23 **Arbitor: A Numerically Accurate Hardware Emulation Tool for DNN Accelerators.**  
Chenhao Jiang, **Anand Jayarajan**, Hao Lu, Gennady Pekhimenko.  
In *proceedings of the 2023 USENIX Annual Technical Conference*.
- ASPLOS '23 **TiLT: A Time-Centric Approach for Stream Query Optimization and Parallelization.**  
**Anand Jayarajan**, Yudi Sun, Wei Zhao, Gennady Pekhimenko.  
In *proceedings of the 28th International Conference on Architectural Support for Programming Languages and Operating Systems 2023*.
- CHIL '22 **How to validate Machine Learning Models Prior to Deployment: Silent trial protocol for evaluation of real-time models at ICU.**  
Sana Tonekaboni, Gabriela Morgenshtern, Azadeh Assadi, Aslesha Pokhrel, Xi Huang, **Anand Jayarajan**, Robert Greer, Gennady Pekhimenko, Melissa McCradden, Fanny Chevalier, Mjaye Mazwi, Anna Goldenberg.  
In *proceedings of the Conference on Health, Inference, and Learning 2022*.
- MICRO '21 **FPRaker: A Processing Element For Accelerating Neural Network Training.**  
Omar Mohamed Awad, Mostafa Mahmoud, Isak Edo, Ali Hadi Zadeh, Ciaran Bannon, **Anand Jayarajan**, Gennady Pekhimenko, Andreas Moshovos.  
In *proceedings of the 54th IEEE/ACM International Symposium on Microarchitecture 2021*.
- ASPLOS '21 **LifeStream: A High-performance Stream Processing Engine for Periodic Streams.**  
**Anand Jayarajan**, Kimberly Hau, Andrew Goodwin, Gennady Pekhimenko.  
In *proceedings of the 26th International Conference on Architectural Support for Programming Languages and Operating Systems 2021*.
- SOSP SRC'19 **DNN Training Performance Analysis: A Divide and Conquer Approach.**  
**Anand Jayarajan**, Gennady Pekhimenko.  
In SOSP Student Research Competition 2019.
- MLSys'19 **Priority-based Parameter Propagation for Distributed DNN Training.**  
**Anand Jayarajan**, Jinliang Wei, Garth A. Gibson, Alexandra Fedorova, Gennady Pekhimenko.  
In *proceedings of the 2nd Conference on Machine Learning and Systems 2019*.
- IISWC'18 **Benchmarking and Analyzing Deep Neural Network Training.**  
Hongyu Zhu, Mohamed Akrouf, Bojian Zheng, Andrew Pelegrini, **Anand Jayarajan**, Amar Phanishayee, Bianca Schroeder, Gennady Pekhimenko.  
In *proceedings of the IEEE International Symposium on Workload Characterization 2018*.

## Awards and Honors

- 2025 *Best artifact award* for Tally  
2023 *Best artifact award* for TiLT

## Academic Services

- 2024 Reviewer for *ACM Transactions on Computer Systems*  
2024 Program committee coordinator *MLSys 2024*  
2023 Local arrangements co-chair *MICRO 2023*  
2022 External Review Committee *MLSys 2023*  
2022 Reviewer of *ACM Transactions on Computer Systems*  
2022, 2021 Reviewer of *IEEE Transactions on Computers*  
2021 Artifact Evaluation Committee *ASPLOS 2021*  
2019 Artifact Evaluation Committee *MLSys 2019*

## Teaching Experience

- Winter 2023 CSC488 - Compilers and Interpreters  
Fall 2022 CSC 2224 - Parallel Computer Architecture and Programming  
Winter 2021 CSC 263 - Data Structures and Analysis  
Fall 2020 CSC B58 - Computer Organization

Spring 2019 CPSC 415 - Advanced Operating Systems  
Spring 2018 CPSC 317 - Internet Computing  
Fall 2017 CPSC 221 - Basic Algorithms and Data Structures