

## Research Interests

AI systems, systems for AI, serverless computing, data & storage systems, operating systems, high-performance computing

The overarching goal of my research is to build highly sustainable, accessible, and scalable next-generation systems that power **the AI applications used by millions every day**—from computational notebooks to open model hubs. My current research focuses on: (1) building sustainable storage systems for AI; (2) designing affordable and accessible systems/platforms to enable elastic, on-demand GPU allocation; (3) developing efficient stateful serverless computing systems that span application frameworks, platforms, and operating systems.

## Professional Experience and Employment

- 08/2023–present **Associate Professor**, *University of Virginia*, Charlottesville, VA.  
School of Data Science and SEAS Department of Computer Science
- 08/2022–08/2023 **Assistant Professor**, *University of Virginia*, Charlottesville, VA.  
School of Data Science and SEAS Department of Computer Science
- 08/2017–08/2022 **Assistant Professor**, *George Mason University*, Fairfax, VA.  
Department of Computer Science
- 2011–2017 **Research/Teaching Assistant**, *Virginia Tech*, Blacksburg, VA.  
Department of Computer Science
- 06/2015–12/2015 **Research Intern**, *EMC*, Princeton, NJ.  
Offline flash caching
- 05/2014–08/2014 **Research Intern**, *IBM Research–Almaden*, San Jose, CA.  
Cloud analytics storage tiering
- 05/2013–08/2013 **Research Intern**, *IBM Research–Almaden*, San Jose, CA.  
Load balanced in-memory caching

## Education

- 2011–2017 **Virginia Polytechnic Institute and State University (Virginia Tech)**, *Blacksburg, VA*.  
Ph.D. in Computer Science
- 2005–2009 **Beijing University of Posts and Telecommunications (BUPT)**, *Beijing, China*.  
B.Eng. in Computer Science

## Honors & Awards

- 2024 **Outstanding Researcher Award**, for achievements in research at the University of Virginia
- 2023 **Outstanding Researcher Award**, for achievements in research at the University of Virginia
- 2023 **Samsung Global Research Outreach Award**, Samsung Advanced Institute of Technology and Samsung Memory Solutions Lab
- 2022 **IEEE CS TCHPC Early Career Researchers Award for Excellence in High Performance Computing** (*One of the most prestigious awards for junior researchers in HPC*)
- 2022 **Meta Research Award** of the Meta AI System Hardware/Software Codesign Competition

- 2022 **Best Student Paper Award Finalist** of The International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 2022): 5 out of 81 accepted papers
- 2022 **Outstanding Teacher Award** of the Computer Science Department at George Mason University
- 2022 **Award Finalist** of Facebook (Meta) Mathematical Modeling & Optimization for Large-Scale Distributed Systems Award Competition
- 2021 **NSF CAREER Award** for the project titled “CAREER: Harnessing Serverless Functions to Build Highly Elastic Cloud Storage Infrastructure”
- 2020 **Amazon Research Award** for the project titled “Distributed Large-scale Graph Deep Learning by Gradient-free Optimization”
- 2012–2015 **Student Travel Grant**: USENIX ATC’16, ACM HPDC’15, EuroSys’15, USENIX OSDI’14, USENIX FAST’14, ACM SoCC’13, USENIX OSDI’12
- 2014 **Pratt Fellowship (Best Teaching Assistant Award)** awarded by Computer Science at Virginia Tech
- 2006–2009 **University Scholarship** awarded by Beijing University of Posts and Telecommunications, China

## Publication

★: Tier-1 venue.

**Systems** NSDI’26, ASPLOS’26, IMC’25, ASPLOS’25, ATC’24, SIGMETRICS’24, SoCC’24, ASPLOS’23, FAST’23, FAST’20, FAST’18, ATC’21, ATC’16, SoCC’21, SoCC’20, EuroSys’15

**HPC** SC’22, SC’21, SC’18, HPDC’20, HPDC’16, HPDC’15

**DB, AI/ML, Web** WWW’25, VLDB’24 ×2, VLDB’23

Number of [csrankings.org](https://csrankings.org) publications: 16 (+ 7)

A: Students for whom I serve as the advisor; M: Students I mentor.

## Refereed Conferences and Workshops

- [MLSys ’26]★ **λScale: Enabling Fast Scaling for Serverless Large Language Model Inference.**  
9<sup>th</sup> Annual Conference on Machine Learning and Systems (*MLSys’26*), (To appear. AR: 133/504 = 26.4%).  
Minchen Yu\*, Rui YangA\*, Chaobo Jia, Zhaoyuan SuA, Sheng Yao, Tingfeng LanA, Yuchen Yang, Zirui WangA, **Yue Cheng**, Wei Wang, Ao Wang, Ruichuan Chen.  
\*: co-first authors
- [MLSys ’26]★ **MorphServe: Efficient and Workload-Aware LLM Serving via Runtime Quantized Layer Swapping and KV Cache Resizing.**  
9<sup>th</sup> Annual Conference on Machine Learning and Systems (*MLSys’26*), (To appear. AR: 133/504 = 26.4%).  
Zhaoyuan SuA, Zeyu Zhang, Tingfeng LanA, Zirui WangA, Haiying Shen, Juncheng Yang, **Yue Cheng**.
- [NSDI ’26]★ **ZipLLM: Efficient LLM Storage via Model-Aware Synergistic Data Deduplication and Compression.**  
23<sup>rd</sup> USENIX Symposium on Networked Systems Design and Implementation (*NSDI’26*), (To appear. AR: 50/207 = 24.2%).  
Zirui WangA, Tingfeng LanA, Zhaoyuan SuA, Juncheng Yang, **Yue Cheng**.

- [ASPLOS '26]★ **NotebookOS: A Replicated Notebook Platform for Interactive Training with On-Demand GPUs.**  
ACM Conference on Architectural Support for Programming Languages and Operating Systems (*ASPLOS'26*), (To appear. AR: 20/208 = 9.6%).  
Benjamin Carver<sup>A</sup>, Jingyuan Zhang<sup>A</sup>, Haoliang Wang, Kanak Mahadik, **Yue Cheng**.
- [FAISys '25] **Cloud-Native Systems for Generative AI Applications: Current Trends and Open Challenges.**  
1<sup>st</sup> Frontier AI Systems Workshop (*FAISys'25*).  
Minchen Yu, Wei Wang, **Yue Cheng**, Hong Xu.
- [IMC '25]★ **The Decentralization Dilemma: Performance Trade-Offs in IPFS and Breakpoints.**  
The ACM Internet Measurement Conference (*IMC'25*), (AR: 72/305 = 23.6%).  
Ruizhe Shi<sup>M</sup>, Yuqi Fu<sup>A</sup>, Ruizhi Cheng, Bo Han, **Yue Cheng**, Songqing Chen.
- [WWW '25]★ **Centralization in Decentralized Web: Challenges and Opportunities in IPFS Data Management.**  
The 2025 ACM Web Conference (*TheWebConf'25*), (AR: 409/2062 = 19.8%).  
Ruizhe Shi<sup>M</sup>, Ruizhi Cheng, Yuqi Fu<sup>A</sup>, Bo Han, **Yue Cheng**, Songqing Chen.
- [ASPLOS '25]★ **Concurrency-Informed Orchestration for Serverless Functions.**  
ACM Conference on Architectural Support for Programming Languages and Operating Systems (*ASPLOS'25*), (AR: 160/912 = 17.5%).  
Qichang Liu<sup>M</sup>, **Yue Cheng**, Haiying Shen, Ao Wang, Bharathan Balaji.
- [SDM '25] **Staleness-Alleviated Distributed GNN Training via Online Dynamic-Embedding Prediction.**  
SIAM International Conference on Data Mining (*SDM'25*), (AR: 61/228 = 26.7%, to appear).  
Guangji Bai, Ziyang Yu, Zheng Chai<sup>A</sup>, **Yue Cheng**, Liang Zhao.
- [SoCC '24]★ **FedCaSe: Enhancing Federated Learning with Heterogeneity-aware Caching and Scheduling.**  
ACM Symposium on Cloud Computing (*SoCC'24*), (AR: 63/209 = 30.1%).  
Redwan Ibne Seraj Khan<sup>M</sup>, Arnab K. Paul, **Yue Cheng**, Xun Jian, Ali R. Butt.
- [VLDB '24]★ **Everything You Always Wanted to Know About Storage Compressibility of Pre-Trained ML Models but Were Afraid to Ask.**  
50<sup>th</sup> International Conference on Very Large Data Bases (*VLDB'24*).  
Zhaoyuan Su<sup>A</sup>, Ammar Ahmed, Zirui Wang<sup>A</sup>, Ali Anwar, **Yue Cheng**.
- [VLDB '24]★ **Algorithmic Complexity Attacks for Dynamic Learned Indexes.**  
50<sup>th</sup> International Conference on Very Large Data Bases (*VLDB'24*).  
Rui Yang<sup>A</sup>, Evgenios M. Kornaropoulos, **Yue Cheng**.
- [ATC '24]★ **ALPS: An Adaptive Learning, Priority OS Scheduler for Serverless Functions.**  
2024 USENIX Annual Technical Conference (*ATC'24*), (AR: 77/488 = 15.8%).  
Yuqi Fu<sup>A</sup>, Ruizhe Shi<sup>M</sup>, Haoliang Wang, Songqing Chen, **Yue Cheng**.
- [SIGMETRICS '24]★ **A Closer Look into IPFS: Accessibility, Content, and Performance.**  
ACM SIGMETRICS / IFIP Performance (*SIGMETRICS'24*), (AR: 54/338 = 16%).  
Ruizhe Shi<sup>M</sup>, Ruizhi Cheng, Bo Han, **Yue Cheng**, Songqing Chen.
- [ASPLOS '23]★ **λFS: A Scalable and Elastic Distributed File System Metadata Service using Serverless Functions.**  
ACM Conference on Architectural Support for Programming Languages and Operating Systems (*ASPLOS'23*), (AR: 151/600 = 25.2%).  
Benjamin Carver<sup>A</sup>, Runzhou Han, Jingyuan Zhang<sup>A</sup>, Mai Zheng, **Yue Cheng**.

- [VLDB '23]★ **INFINISTORE: Elastic Serverless Cloud Storage.**  
49<sup>th</sup> International Conference on Very Large Data Bases (*VLDB'23*).  
Jingyuan Zhang<sup>A</sup>, Ao Wang<sup>A</sup>, Xiaolong Ma, Benjamin Carver<sup>A</sup>, Nicholas John Newman<sup>A</sup>, Ali Anwar, Vasily Tarasov, Lukas Rupperecht, Dimitrios Skourtis, Feng Yan, **Yue Cheng**.
- [FAST '23]★ **SHADE: Enable Fundamental Cacheability for Distributed Deep Learning Training.**  
USENIX Conference on File and Storage Techniques (*FAST'23*), (AR: 28/123 = 22.8%).  
Redwan Ibne Seraj Khan<sup>M</sup>, Ahmad Hossein Yazdani<sup>M</sup>, Yuqi Fu<sup>A</sup>, Arnab K. Paul, Bo Ji, Xun Jian, **Yue Cheng**, Ali R. Butt.
- [SC '22]★ **SFS: Smarter OS Scheduling for Serverless Functions.**  
The International Conference for High Performance Computing, Networking, Storage, and Analysis (*SC'22 – Best Student Paper Award Finalist*), (AR: 81/320 = 25.3%).  
Yuqi Fu<sup>A</sup>, Li Liu<sup>M</sup>, Haoliang Wang, **Yue Cheng**, Songqing Chen.
- [SoCC '21]★ **Mind the Gap: Broken Promises of CPU Reservations in Containerized Multi-tenant Clouds.**  
ACM Symposium on Cloud Computing (*SoCC'21*), (AR: 46/145 = 31.7%).  
Li Liu<sup>M</sup>, Haoliang Wang, An Wang, Mengbai Xiao, **Yue Cheng**, Songqing Chen.
- [SC '21]★ **FedAT: A High-Performance and Communication-Efficient Federated Learning System with Asynchronous Tiers.**  
The International Conference for High Performance Computing, Networking, Storage, and Analysis (*SC'21*), (AR: 86/365 = 23.6%).  
Zheng Chai<sup>A</sup>, Yujing Chen, Ali Anwar, Liang Zhao, **Yue Cheng**, Huzefa Rangwala.
- [ATC '21]★ **FAASNET: Scalable and Fast Provisioning of Custom Serverless Container Runtimes at Alibaba Cloud Function Compute.**  
2021 USENIX Annual Technical Conference (*ATC'21*), (AR: 64/341 = 18.8%).  
Ao Wang<sup>A</sup>, Shuai Chang, Huangshi Tian, Hongqi Wang, Haoran Yang, Huiba Li, Rui Du, **Yue Cheng**.
- [OPT '21] **Community-based Layerwise Distributed Training of Graph Convolutional Networks.**  
NeurIPS 2021 Workshop on Optimization for Machine Learning (*OPT'21*).  
Hongyi Li, Junxiang Wang, Yongchao Wang, **Yue Cheng**, Liang Zhao.
- [ICDM '20] **Toward Model Parallelism for Deep Neural Network based on Gradient-free ADMM Framework.**  
20<sup>th</sup> IEEE International Conference on Data Mining (*ICDM'20*), (AR: 91/930 = 9.8%).  
Junxiang Wang, Zheng Chai<sup>A</sup>, **Yue Cheng**, Liang Zhao.
- [SoCC '20]★ **WUKONG: A Scalable and Locality-Enhanced Framework for Serverless Parallel Computing.**  
ACM Symposium on Cloud Computing (*SoCC'20*), (AR: 35/143 = 24.5%).  
Benjamin Carver<sup>A</sup>, Jingyuan Zhang<sup>A</sup>, Ao Wang<sup>A</sup>, Ali Anwar, Panruo Wu, **Yue Cheng**.
- [ICML WS '20] **Tunable Subnetwork Splitting for Model-parallelism of Neural Network Training.**  
ICML 2020 Workshop on Beyond First-Order Methods in ML systems (*ICML WS'20*).  
Junxiang Wang, Zheng Chai<sup>A</sup>, **Yue Cheng**, Liang Zhao.
- [HPDC '20]★ **TiFL: A Tier-based Federated Learning System.**  
ACM Symposium on High-Performance Parallel and Distributed Computing (*HPDC'20*), (AR: 16/71 = 22.5%).  
Zheng Chai<sup>A</sup>, Ahsan Ali, Syed Zawad, Ali Anwar, Stacey Truex, Nathalie Baracaldo, Yi Zhou, Heiko Ludwig, Feng Yan, **Yue Cheng**.

- [FAST '20]★ **INFINICACHE: Exploiting Ephemeral Serverless Functions to Build a Cost-Effective Memory Cache.**  
 USENIX Conference on File and Storage Techniques (**FAST'20**), (AR: 23/138 = 16.7%).  
 Ao Wang<sup>A\*</sup>, Jingyuan Zhang<sup>A\*</sup>, Xiaolong Ma, Ali Anwar, Vasily Tarasov, Lukas Rupprecht, Dimitrios Skourtis, Feng Yan, **Yue Cheng**.  
 \*: co-first authors
- [PDSW '19] **In Search of a Fast and Efficient Serverless DAG Engine.**  
 The 4<sup>th</sup> International Parallel Data Systems Workshop (**PDSW'19**).  
 Benjamin Carver<sup>A</sup>, Jingyuan Zhang<sup>A</sup>, Ao Wang<sup>A</sup>, **Yue Cheng**.
- [Cloud '19] **Bolt: Towards a Scalable Docker Registry.**  
 The IEEE International Conference on Cloud Computing (**Cloud'19**), (AR: 20.8%).  
 Michael Littley, Ali Anwar, Hannan Fayyaz<sup>M</sup>, Zeshan Fayyaz<sup>M</sup>, Vasily Tarasov, Lukas Rupprecht, Dimitrios Skourtis, Mohamed Mohamed, Heiko Ludwig, **Yue Cheng**, Ali R. Butt.
- [OpML '19] **Towards Taming the Resource and Data Heterogeneity in Federated Learning.**  
 2019 USENIX Conference on Operational Machine Learning (**OpML'19**), (AR: 16/30 = 53.3%).  
 Zheng Chai<sup>A</sup>, Hannan Fayyaz<sup>M</sup>, Zeshan Fayyaz<sup>M</sup>, Ali Anwar, Yi Zhou, Nathalie Baracaldo, Heiko Ludwig, **Yue Cheng**.
- [VEE '19] **vCPU as a Container: Towards Accurate CPU Allocation for VMs.**  
 The 15<sup>th</sup> ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments (**VEE'19**), (AR: 15/33 = 45.5%).  
 Li Liu<sup>M</sup>, Haoliang Wang, An Wang, Mengbai Xiao, **Yue Cheng**, Songqing Chen.
- [BigData '18] **Analyzing Alibaba's Co-located Datacenter Workloads.**  
 IEEE International Conference on Big Data (**BigData'18**), (AR: 38.8%).  
**Yue Cheng**, Ali Anwar, Xuejing Duan.
- [SC '18]★ **BESPOKV: Application Tailored Scale-Out Key-Value Stores.**  
 The International Conference for High Performance Computing, Networking, Storage, and Analysis (**SC'18**), (AR: 68/288 = 23.6%).  
 Ali Anwar, **Yue Cheng**, Hai Huang, Jingoo Han, Hyogi Sim, Dongyoon Lee, Fred Douglass, and Ali R. Butt.
- [APSys '18] **Characterizing Co-located Datacenter Workloads: An Alibaba Case Study.**  
 The 9<sup>th</sup> ACM SIGOPS Asia-Pacific Workshop on Systems (**APSys'18**), (AR: 21/50 = 42%).  
**Yue Cheng**, Zheng Chai\*, Ali Anwar.
- [IPDPS '18] **Chameleon: An Adaptive Wear Balancer for Flash Clusters.**  
 IEEE International Parallel & Distributed Processing Symposium (**IPDPS'18**), (AR: 113/461 = 24.5%).  
 Nannan Zhao, Ali Anwar, **Yue Cheng**, Mohammed Salman, Daping Li, Jiguang Wan, Changsheng Xie, Xubin He, Feiyi Wang, and Ali R. Butt.
- [FAST '18]★ **Improving Docker Registry Design based on Production Workload Analysis.**  
 USENIX Conference on File and Storage Techniques (**FAST'18**), (AR: 23/140 = 16.4%).  
 Ali Anwar, Mohamed Mohamed, Vasily Tarasov, Michael Littley, Lukas Rupprecht, **Yue Cheng**, Nannan Zhao, Dimitrios Skourtis, Amit S. Warke, Heiko Ludwig, Dean Hildebrand, Ali R. Butt.
- [ATC '16]★ **Erasing Belady's Limitations: In Search of Flash Cache Offline Optimality.**  
 The 2016 USENIX Annual Technical Conference (**ATC'16**), (AR: 47/266 = 17.7%).  
**Yue Cheng**, Fred Douglass, Philip Shilane, Michael Trachtman, Grant Wallace, Peter Desnoyers, and Kai Li.

- [HotStorage '16] **ClusterOn: Building Highly Configurable and Reusable Clustered Data Services using Simple Data Nodes.**  
The 8<sup>th</sup> USENIX Workshop on Hot Topics in Storage and File Systems (*HotStorage'16*), (AR: 24/65 = 36.9%).  
Ali Anwar, **Yue Cheng**, Hai Huang, and Ali R. Butt.
- [HPDC '16]★ **MOS: Workload-aware Elasticity for Cloud Object Stores.**  
The 25<sup>th</sup> ACM Symposium on High-Performance Parallel and Distributed Computing (*HPDC'16*), (AR: 20/129 = 15.5%).  
Ali Anwar, **Yue Cheng**, Aayush Gupta, and Ali R. Butt.
- [VarSys '16] **Towards Managing Variability in the Cloud.**  
The 1<sup>st</sup> IEEE International Workshop on Variability in Parallel and Distributed Systems (*VarSys'16*).  
Ali Anwar, **Yue Cheng**, and Ali R. Butt.
- [PDSW '15] **Taming the Cloud Object Stores with MOS.**  
The 10<sup>th</sup> ACM Parallel Data Storage Workshop (*PDSW'15*), (AR: 9/25 = 36%).  
Ali Anwar, **Yue Cheng**, Aayush Gupta, and Ali R. Butt.
- [HotCloud '15] **Pricing Games for Hybrid Object Stores in the Cloud: Provider vs. Tenant.**  
The 7<sup>th</sup> USENIX Workshop on Hot Topics in Cloud Computing (*HotCloud'15*), (AR: 21/64 = 32.8%).  
**Yue Cheng**, M. Safdar Iqbal, Aayush Gupta, and Ali R. Butt.
- [HPDC '15]★ **CAST: Tiering Storage for Data Analytics in the Cloud.**  
The 24<sup>th</sup> ACM Symposium on High-Performance Parallel and Distributed Computing (*HPDC'15*), (AR: 19/116 = 16.4%).  
**Yue Cheng**, M. Safdar Iqbal, Aayush Gupta, and Ali R. Butt.
- [EuroSys '15]★ **An In-Memory Object Caching Framework with Adaptive Load Balancing.**  
The 10<sup>th</sup> ACM European Conference on Computer Systems (*EuroSys'15*), (AR: 32/154 = 20.8%).  
**Yue Cheng**, Aayush Gupta, and Ali R. Butt.
- Technical Reports**
- [VT technical report] **MOANA: Modeling and Analyzing I/O Variability in Parallel System Experimental Design.**  
Kirk Cameron, Ali Anwar, **Yue Cheng**, Li Xu, Bo Li, Uday Ananth, Yili Hong, Layne T. Watson, and Ali R. Butt.
- Posters and Demos**
- [NSDI '19] **HyperFaaS: A Truly Elastic Serverless Computing Framework.**  
USENIX Symposium on Networked Systems Design and Implementation (*NSDI'19*), (Poster).  
Jingyuan Zhang\*, Ao Wang\*, Min Li, Yuan Chen, **Yue Cheng**.
- [APSys '15] **Taming the Cloud Object Stores with MOS.**  
The 6<sup>th</sup> ACM SIGOPS Asia-Pacific Workshop on Systems (*APSys'15*), (Poster).  
Ali Anwar, **Yue Cheng**, Aayush Gupta, and Ali R. Butt.
- [SoCC '13] **High Performance In-Memory Caching through Flexible Fine-Grained Services.**  
2013 ACM Symposium on Cloud Computing (*SoCC'13*), (Poster).  
**Yue Cheng**, Aayush Gupta, Anna Povzner, and Ali R. Butt.



## Book Chapters

- [Book chapter] **SDN helps Big Data to optimize storage.**  
Big Data and Software Defined Networks, editor: Javid Taheri. IET, ISBN 978-1-78561-304-3. 2018.  
Ali R. Butt, Ali Anwar, and **Yue Cheng**.

## Refereed Journals

- [ACM CSUR] **Beyond Efficiency: A Systematic Survey of Resource-Efficient Large Language Models.**  
ACM Computing Surveys (*ACM CSUR*) (*Under revision*).  
Guangji Bai, Zheng Chai, Chen Ling, Shiyu Wang, Jiaying Lu, Nan Zhang, Tingwei Shi, Ziyang Yu, Mengdan Zhu, Yifei Zhang, Carl Yang, **Yue Cheng**, Liang Zhao.
- [TNNLS] **Towards Quantized Model Parallelism for Graph-Augmented MLPs Based on Gradient-Free ADMM Framework.**  
IEEE Transactions on Neural Networks and Learning Systems (*TNNLS*).  
Junxiang Wang, Hongyi Li, Zheng Chai, Yongchao Wang, **Yue Cheng**, Liang Zhao.
- [TPDS] **Customizable Scale-Out Key-Value Stores.**  
IEEE Transactions on Parallel and Distributed Systems (*TPDS*), Volume: 31, Issue: 9, Pages: 2081-2096, Apr. 25 2020, (Impact Factor = 3.402).  
Ali Anwar, **Yue Cheng**, Hai Huang, Jingoo Han, Hyogi Sim, Dongyoon Lee, Fred Douglass, Ali R. Butt.
- [TPDS] **MOANA: Modeling and Analyzing I/O Variability in Parallel System Experimental Design.**  
IEEE Transactions on Parallel and Distributed Systems (*TPDS*), Volume: 30, Issue: 8, Pages: 1843-1856, Aug. 1 2019, (Impact Factor = 3.402).  
Kirk Cameron, Ali Anwar, **Yue Cheng**, Li Xu, Bo Li, Uday Ananth, Yili Hong, Layne T. Watson, and Ali R. Butt.
- [Internet Computing] **Provider versus Tenant Pricing Games for Hybrid Object Stores in the Cloud.**  
IEEE Internet Computing's special issue on Cloud Storage: May/June 2016, Pages: 28-35, vol. 20.  
**Yue Cheng**, M. Safdar Iqbal, Aayush Gupta, and Ali R. Butt.

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## Research Funding

8 NSF grants, 8 industry awards/gifts (Samsung, Adobe, Meta, and Amazon), 1 4-VA initiatives project, 1 Virginia Commonwealth Cyber Initiative (CCI) award, 7 time allocation cloud credit awards, and 1 hardware donation.

Total funding amount: around \$6 M; Total personal share: around \$2.4 M.

- CCI Hub "FORTAI: AI-Enabled Zero-Trust Security Framework for Agentic AI Serving Infrastructures". Grant amount: \$100,000; My personal share: \$50,000 (50% share); PI: Yue Cheng (UVA); Co-PI: Songqing Chen (GMU); Duration: 01/01/2026–12/31/2026.
- NSF: OAC-2403313 "Collaborative Research: OAC Core: Distributed Graph Learning Cyberinfrastructure for Large-scale Spatiotemporal Prediction". Grant amount: \$599,547; My personal share: \$299,973 (50% share); PI: Yue Cheng (UVA); Duration: 10/01/2024–9/30/2027.
- NSF: OAC-2411009 "Elements: A Sustainable, Resource-Efficient Cyberinfrastructure for Notebook Interactive ML Training Workloads". Grant amount: \$600,000; My personal share: \$300,000 (50% share); PI: Yue Cheng (UVA); Co-PI: Geoffrey Fox (UVA); Duration: 09/15/2024–8/31/2027.
- NSF: SMA-2349503 "REU Site: The Data Justice Academy". Grant amount: \$481,232; PI: Claudia Scholz (UVA); Co-PI: Yue Cheng (UVA); Duration: 09/01/2024–8/31/2027.

- Samsung GRO **"Highly Efficient Pre-Trained LLM Storage with Near-Storage Compression and CXL Memory Integration"**. Total: \$250,000; My personal share: \$125,000; Role: PI: Yue Cheng (UVA), Co-PI: Ali Anwar (UMN); Duration: 04/2024–09/2025.
- Adobe Gift **"Serverless GPU and Storage Management for Large-scale, Interactive Machine Learning Training Workloads"**. Total: \$25,000; My personal share: \$25,000; Role: PI: Yue Cheng (UVA); Duration: 02/2024–present.
- Adobe Gift **"Serverless GPU and Storage Management for Large-scale, Interactive Machine Learning Training Workloads"**. Total: \$20,000; My personal share: \$20,000; Role: PI: Yue Cheng (UVA); Duration: 06/2023–present.
- 4-VA Collaborative Grant **"Near-Data Processing for Machine Learning Workloads Acceleration"**. Total: \$35,000; My personal share: \$5,000; Role: PI: Huaicheng Li (VT); Co-PI: Yue Cheng (UVA); Duration: 05/2023–present.
- Meta Research Awards **"Serverless and Scalable GNN Training with Disaggregated Compute and Storage"**. Total: \$50,000; Role: PI: Yue Cheng (UVA); Co-PI: Liang Zhao (Emory); Duration: 09/2022–08/2023.
- Hardware **Western Digital Zoned Namespaces SSDs**. Two 4TB Western Digital ZN540 SSDs; Role: PI: Yue Cheng (UVA).
- Adobe Gift **"Serverless GPU and Storage Management for Large-scale, Interactive Machine Learning Training Workloads"**. Total: \$30,000; My personal share: \$30,000; Role: PI: Yue Cheng (UVA); Duration: 05/2022–present.
- Adobe Gift **"Serverless GPU and Storage Management for Large-scale, Interactive Machine Learning Training Workloads"**. Total: \$10,000; My personal share: \$10,000; PI: Yue Cheng (UVA); Duration: 09/2021–present.
- NSF: CMMI-2134689 **"FMSG: Cyber: Federated Deep Learning for Future Ubiquitous Distributed Additive Manufacturing"**. Grant amount: \$498,762; My personal share: \$189,949 (38% share); PI: Jia Liu (Auburn); Co-PI: Yue Cheng (UVA); Duration: 10/01/2021–9/30/2023.
- Adobe Gift **"Achieving Predictable Performance for FaaS Workloads via OS-Transparent Serverless Function Scheduling"**. Total: \$10,000; My personal share: \$10,000; PI: Yue Cheng (UVA); Duration: 03/2021–present
- NSF: CNS-2045680 **"CAREER: Harnessing Serverless Functions to Build Highly Elastic Cloud Storage Infrastructure"**. Grant amount: \$572,897 + \$16,000 REU; My personal share: \$572,897 + \$16,000 REU (100% share); PI: Yue Cheng (UVA); Duration: 02/15/2021–02/14/2026.
- Amazon Research Award **"Distributed Large-scale Graph Deep Learning by Gradient-free Optimization"**. Grant amount: \$75,000; My personal share: \$37,500; PI: Liang Zhao (Emory); Co-PI: Yue Cheng (UVA); Duration: 11/01/2020–10/31/2022.
- NSF: MRI-2018631 **"MRI: Acquisition of an Adaptive Computing Infrastructure to Support Compute- and Data-Intensive Multidisciplinary Research"**. Grant amount: \$750,000; PI: Elise Miller-Hooks (GMU); Co-PIs: Jayshree Sarma, Yue Cheng, Shobita Satyapal, Maria Emelianenko (GMU); Involved in designing Hopper, GMU's next-generation on-campus HPC Infrastructure; Duration: 08/01/2020–7/31/2023.
- NSF: OAC-2007976 **"OAC Core: SMALL: DeepJIMU: Model-Parallelism Infrastructure for Large-scale Deep Learning by Gradient-Free Optimization"**. Grant amount: \$498,609; My personal share: \$249,302 (50% share); PI: Liang Zhao (Emory); Co-PI: Yue Cheng (UVA); Duration: 10/01/2020–9/30/2023.
- NSF: CCF-1919075 **"SPX: Collaborative Research: Cross-stack Memory Optimizations for Boosting I/O Performance of Deep Learning HPC Applications"**. Grant amount: \$1,273,487; UVA share: \$320,603 (25% share); Role: PI: Yue Cheng (UVA); Duration: 10/01/2019–9/30/2023.



## Time Allocation Grants

- NSF CloudBank **"A Sustainable, GPU-Efficient, and Serverless Datacenter Operating System for Jupyter-Notebook-based Interactive AI/ML Workloads"**. Total: \$5,000 AWS credits; PI: Yue Cheng (UVA); Duration: 12/04/2025–12/03/2026.
- Lambda **"Designing and Optimizing Serverless LLM Inference Platform"**. Total: \$5,000 GPU credits; PI: Yue Cheng (UVA); Duration: 10/18/2025–10/17/2026.
- Modal **"MorphServe: Dynamic Weight Quantization and KVC Resizing for LLM Inference"**. Total: \$2,000 GPU credits; PI: Yue Cheng (UVA); Duration: 10/01/2025–09/30/2026.
- NSF CloudBank **"CAREER: Harnessing Serverless Functions to Build Highly Elastic Cloud Storage Infrastructure"**. Total: \$44,827 AWS credits; PI: Yue Cheng (UVA); Duration: 07/21/2022–06/30/2024.
- Google Cloud Platform **"Towards a GPU-efficient Serverless Notebook Platform"**. Total: \$5,000 cloud credits; PI: Yue Cheng (UVA); Duration: 01/08/2024–01/07/2025.
- IBM Cloud **"INFINISTORE: Elastic Serverless Cloud Storage"**. Total: \$20,000 cloud credits; PI: Yue Cheng (UVA); Duration: 12/30/2020–12/29/2021.
- Google Cloud Platform **"Building a Purely Serverless Parallel Computing Framework"**. Total: \$5,000 cloud credits; PI: Yue Cheng (UVA); Duration: 08/10/2020–08/09/2021.
- Amazon Web Services **"LambDAG: A Lambda-aware DAG Engine"**. Total: \$36,000 AWS credits; PI: Yue Cheng (UVA); Duration: 10/01/2019–10/31/2020.
- Google Cloud Platform **"Building a Generic Serverless DAG Engine"**. Total: \$10,000 cloud credits; PI: Yue Cheng (UVA); Duration: 08/20/2019–02/19/2020.
- Google Cloud Platform **"Towards Serverless Computational Science"**. Total: \$5,000 cloud credits; PI: Yue Cheng (UVA); Duration: 10/01/2018–07/31/2019.
- Amazon Web Services **"Building a Virtual Serverless Cloud OS"**. Total: \$36,000 AWS credits; PI: Yue Cheng (UVA); Duration: 08/01/2018–07/31/2019.

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## Talks

- 2025 **Concurrency-informed Serverless Function Orchestration**  
Conference talk: ACM Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS 2025), Rotterdam, The Netherlands (04/2025)
- 2025 **Flex: Fast, Accurate DNN Inference on Low-Cost Edges Using Heterogeneous Accelerator Execution**  
Conference talk: ACM European Conference on Computer Systems (EuroSys 2025), Rotterdam, The Netherlands (04/2025)
- 2024 **Everything You Always Wanted to Know About Storage Compressibility of Pre-Trained ML Models but Were Afraid to Ask**  
Conference talk: 50<sup>th</sup> International Conference on Very Large Data Bases (VLDB 2024), Guangzhou, China (08/2024)
- 2024 **Algorithmic Complexity Attacks on Dynamic Learned Indexes**  
Conference talk: 50<sup>th</sup> International Conference on Very Large Data Bases (VLDB 2024), Guangzhou, China (08/2024)
- 2024 **Stateful Computing in a Serverless Way**  
Invited talk: McDaniel College, MD (05/2024)
- 2023 **SHADE: Enable Fundamental Cacheability for Distributed Deep Learning Training**  
Invited talk: The GenAI and ML Systems Efficiency Workshop, Adobe Research, virtual (10/2023)

- 2023 **Stateful Computing in a Serverless Way**  
Invited talk: The University of Edinburgh, Scotland, virtual (04/2023)
- 2022 **Computing in a Serverless Way for Fun and Profit**  
Invited talk: Virginia Tech Northern Virginia Center, Falls Church, VA (10/2022)
- 2022 **Scaling Data Analytics on Serverless Clouds**  
Invited talk: McDaniel College, MD (03/2022)
- 2018 **Analyzing Alibaba's Co-located Datacenter Workloads**  
Conference talk: IEEE BigData 2018, Seattle, WA (12/2018)
- 2018 **The hardware, they are a-changin**  
Breakout summary talk: Workshop on Data Storage Research 2025, San Jose, CA (05/2018)
- 2018 **Breaking the Monolith: Rethinking Storage System Design**  
Invited talk: Virginia Tech Northern Virginia Center, Falls Church, VA (03/2018)
- 2018 **Erasing Belady's Limitations: In Search of Flash Cache Offline Optimality**  
Invited talk: HPDC'18 TPC Workshop, Berkeley, CA (03/2018)
- 2017 **Breaking the Monolith: Rethinking Storage System Design**  
George Mason University, Fairfax, VA (11/2017)  
George Mason University, Fairfax, VA (04/2017)
- 2016 **Erasing Belady's Limitations: In Search of Flash Cache Offline Optimality**  
Conference talk: USENIX ATC'16, Denver, CO (06/2016)  
Internship talk: The CTO Office of EMC CTD, Princeton, NJ (06/2016)
- 2015 **Pricing Games for Hybrid Object Stores in the Cloud: Provider vs. Tenant**  
Conference talk: USENIX HotCloud'15, Santa Clara, CA (06/2015)  
The CTO Office of EMC CTD, Princeton, NJ (05/2015)
- 2015 **CAST: Tiering Storage for Data Analytics in the Cloud**  
Conference talk: ACM HPDC'15, Portland, OR (06/2015)
- 2015 **An In-Memory Object Caching Framework with Adaptive Load Balancing**  
Conference talk: ACM EuroSys'15, Bordeaux, France (04/2015)
- 2014 **An In-Memory Object Caching Framework with Adaptive Load Balancing**  
Internship talk: IBM Almaden Research Center, San Jose, CA (08/2014)
- 2013 **High Performance, Flexible Memory Caching**  
Internship talk: IBM Almaden Research Center, San Jose, CA (08/2013)

## Teaching

### At University of Virginia

- Fall 2025 **CS6501 Serverless AI** (graduate and advanced undergraduate)  
<https://tddg.github.io/cs6501-serverless-ai-fall25/>  
Enrollment: 20
- Spring 2025 **DS5110 Big Data Systems** (graduate)  
<https://tddg.github.io/ds5110-spring25/>  
Enrollment: 62
- Fall 2024 **CS4740 Cloud Computing** (undergraduate)  
<https://tddg.github.io/cs4740-fall24/>  
Enrollment: 69
- Spring 2024 **CS5501 Big Data Systems** (advanced undergraduate/graduate)  
<https://tddg.github.io/ds5110-cs5501-spring24/>  
Enrollment: 29

- Spring 2024 **DS5110 Big Data Systems** (graduate)  
<https://tddg.github.io/ds5110-cs5501-spring24/>  
 Enrollment: 68
- Spring 2023 **DS5110 Big Data Systems** (graduate)  
<https://tddg.github.io/ds5110-spring23/>  
 Enrollment: 64
- At George Mason University**
- Spring 2022 **CS571 Operating Systems** (graduate)  
<https://tddg.github.io/cs571-spring22/>  
 Enrollment: 23, (overall instructor rating and course rating cancelled starting Spring 2022)
- Fall 2021 **CS475 Concurrent & Distributed Systems** (undergraduate)  
<https://tddg.github.io/cs475-fall21/> – *Best teacher award*  
 Enrollment: 58, Instructor rating: 4.36/5, course rating: 4.16/5
- Spring 2021 **CS571 Operating Systems** (graduate)  
<https://tddg.github.io/cs571-spring21/>  
 Enrollment: 18, Instructor rating: 4.93/5, course rating: 4.64/5
- Fall 2020 **Teaching leave**
- Spring 2020 **CS675 Distributed Systems** (graduate)  
<https://tddg.github.io/cs675-spring20/>  
 Enrollment: 9 (formal teaching evaluation cancelled due to COVID-19)
- Spring 2020 **CS571 Operating Systems** (graduate)  
<https://tddg.github.io/cs571-spring20/>  
 Enrollment: 34 (formal teaching evaluation cancelled due to COVID-19)
- Fall 2019 **CS471 Operating Systems** (undergraduate)  
[https://cs.gmu.edu/~yuecheng/teaching/cs471\\_fall19/](https://cs.gmu.edu/~yuecheng/teaching/cs471_fall19/)  
 Enrollment: 68, Instructor rating: 4.33/5, Course rating: 3.98/5
- Spring 2019 **CS471 Operating Systems** (undergraduate)  
[https://cs.gmu.edu/~yuecheng/teaching/cs471\\_spring19/index.html](https://cs.gmu.edu/~yuecheng/teaching/cs471_spring19/index.html)  
 Enrollment: 66, Instructor rating: 4.63/5, Course rating: 4.06/5
- Fall 2018 **CS795 Cloud Computing** (graduate)  
[https://cs.gmu.edu/~yuecheng/teaching/cs795\\_fall18/index.html](https://cs.gmu.edu/~yuecheng/teaching/cs795_fall18/index.html)  
 Enrollment: 8, Instructor rating: 4.88/5, Course rating: 4.88/5
- Fall 2017 **CS471 Operating Systems** (undergraduate)  
[https://cs.gmu.edu/~yuecheng/teaching/cs471\\_fall17/](https://cs.gmu.edu/~yuecheng/teaching/cs471_fall17/)  
 Enrollment: 59, Instructor rating: 2.94/5, Course rating: 2.81/5

## Student Advising

### PhD Dissertation Advisor

1. Yuqi Fu, PhD, Computer Science, University of Virginia, started 2020, expected to graduate Fall 2025  
 Topic: Serverless resource scheduling and systems for AI  
 Internships:
  - Google, Spring–Fall 2024.
  - Adobe, Summer 2023.
  - ByteDance, Summer 2022.

2. Rui Yang, PhD, Computer Science, University of Virginia, started 2021, expected to graduate Fall 2025  
Topic: Systems for ML and AI systems  
Internships:  
    - AWS, Summer 2025.
  3. Zhaoyuan (Alex) Su, PhD, Computer Science, University of Virginia, started 2021  
Topic: LLM systems  
Internships:  
    - Snowflake AI Research, Fall 2025.
    - Samsung, Summer 2024.
    - Argonne National Laboratory, Summer 2022.
  4. Zirui Wang, PhD, Computer Science, University of Virginia, started 2024  
Topic: Storage systems for AI
  5. Tingfeng Lan, PhD, Computer Science, University of Virginia, started 2024  
Topic: AI systems and systems for AI
  6. Yusen Wu, PhD, Computer Science, University of Virginia, started 2025  
Topic: AI systems and systems for AI
- On-leave Ao Wang, PhD, George Mason University, 2018–2020 (on leave) → Technical Expert @ Alibaba Cloud Function Compute

### Graduated PhD Students

1. Jingyuan Zhang, PhD, George Mason University, 2023 → Software Engineer, Cloud native infrastructure team @ ByteDance
2. Zheng Chai, PhD, CS, University of Virginia, 2024 → Machine Learning Engineer
3. Benjamin Carver, PhD, CS, George Mason University, 2025 → Research Scientist, AI networking infrastructure team @ Meta

### Master Research

1. Benjamin Carver, Accelerated BS/MS Program@GMU, 2 papers published  
Topic: Designing a Serverless Data Analytics Framework
2. Rafael Madrid MS, CS,  
Topic: Designing NVM Storage for Serverless Workloads
3. Anne Martine Augustin (MS, SWE, Spring'19–Summer'19)

### Undergraduate Research

Alex Yung, CS@UVA  
 Junho Lee, CS@UVA, REU support  
 Huarui Liu, CS@UVA, REU support  
 Chinmay Gowda, CS@UVA  
 Matthew Haid, CS@UVA  
 Sherry Zhao, CS@UVA  
 Jingzhou Qiu, CS@UVA  
 Shengming Gao, CS@UVA  
 Michael Somarriba, CS@GMU  
 Daniel Meneses, CS@GMU  
 Yuanqi Du, CS@GMU  
 Benjamin Carver, CS@GMU, REU support  
 Isaiah King, CS@GMU, REU support

Dawen Yang, CS@GMU  
Mark Boehen, ECE@GMU  
Prajith Pandrate, CS, University of Illinois Urbana Champaign  
Hannan Fayyaz, CS, York University, Canada  
Zeshan Fayyaz, CS, Ryerson University, Canada

### PhD Dissertation Committee Member

Shohaib Mahmud, PhD, CS@UVA  
Defense Suraiya, PhD, CS@UVA  
Marshall Clyburn, PhD, CS@UVA  
Tanmoy Sen, PhD, CS@UVA  
Guangji Bai, PhD, CS@Emory  
Redwan Ibne Seraj Khan, PhD, CS@VT  
Samuel S. Ogden, PhD, CS@WPI  
Hengrun Zhang, PhD, CS@GMU  
Li Liu, PhD, CS@GMU  
Robert Lorentz, PhD, ECE@GMU

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## Open-source Software

ZipLLM: <https://github.com/ds2-lab/ZipLLM>  
NotebookOS: <https://github.com/ds2-lab/NotebookOS>  
ZenFlow: <https://github.com/deepspeedai/DeepSpeed/pull/7391>  
INFINICACHE: <https://github.com/ds2-lab/infinicache>  
INFINISTORE: <https://github.com/ds2-lab/infinistore>  
λFS: <https://github.com/ds2-lab/LambdaFS>  
WUKONG: <https://github.com/ds2-lab/Wukong>  
FAASNET: <https://github.com/ds2-lab/FaaSNet>  
SFS: <https://github.com/ds2-lab/SFS>  
ALPS: <https://github.com/ds2-lab/ALPS>  
ELF: <https://github.com/ds2-lab/ELF>  
CIDRE: [https://github.com/nzc5ve/cidre\\_asplos25](https://github.com/nzc5ve/cidre_asplos25)  
Algorithmic complexity attacks for dynamic learned indexes: <https://github.com/ds2-lab/aca-dlis>  
BESPOKV: <https://github.com/tddg/bspokv>  
SHADE: <https://github.com/R-I-S-Khan/SHADE>

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## Professional Services

### University, College, and Department Service

2024–2025	Faculty search committee, School of Data Science, UVA
2024–2026	Ph.D. admissions committee, Computer Science, UVA
2024–2026	Master's admissions committee, Computer Science, UVA
2021–2022	Faculty search committee, Computer Science, GMU
2017–2019	Ph.D. admissions committee, Computer Science, GMU



## Conference Organizer and Community Services

- 2025 **ICDCS**, Cloud Computing Track TPC Chair, IEEE International Conference on Distributed Computing Systems
- 2024 **HotStorage**, General co-chair, ACM Workshop on Hot Topics in Storage and File Systems
- 2023 **HotStorage**, Publication chair, ACM Workshop on Hot Topics in Storage and File Systems
- 2023 **HPDC**, Workshop co-chair, ACM International Symposium on High-Performance Parallel and Distributed Computing
- 2022 **HotStorage**, Publication chair, ACM Workshop on Hot Topics in Storage and File Systems
- 2021-present **IEEE STCOS**, Co-chair, IEEE Special Technical Community on Operating Systems
- 2021 **ICDCS**, Local arrangement chair, IEEE International Conference on Distributed Computing Systems
- 2019 **SEC**, Local arrangement chair, ACM/IEEE Symposium on Edge Computing

## Journal Editorship

- 2024-present Topic Editor for Frontiers in Computer Science: Serverless Computing for Stateful Applications
- 2023-present Review Editor for Frontiers in High Performance Computing

## Award Committee

- 2023 Committee for IEEE CS TCHPC Early Career Researchers Award for Excellence in High Performance Computing

## Technical Program Committee

- 2026 **SESAME**, The 4<sup>th</sup> Workshop on SErverless Systems, Applications and MEthodologies (colocated with EuroSys'26)
- 2026 **SoCC**, ACM Symposium on Cloud Computing, two rounds
- 2026 **HPDC**, ACM International Symposium on High-Performance Parallel and Distributed Computing
- 2026 **SC**, International Conference for High Performance Computing, Networking, Storage, and Analysis
- 2026 **EuroSys**, European Conference on Computer Systems: Spring + Fall cycle
- 2026 **FAST**, 24<sup>th</sup> USENIX Conference on File and Storage Technologies: Spring + Fall cycle
- 2025 **BigMem**, The International Workshop on Big Memory (co-located with ACM SOSP 2025)
- 2025 **SoCC**, ACM Symposium on Cloud Computing
- 2025 **NeurIPS**, 39<sup>th</sup> Annual Conference on Neural Information Processing Systems
- 2025 **SC**, International Conference for High Performance Computing, Networking, Storage, and Analysis
- 2025 **HotStorage**, ACM Workshop on Hot Topics in Storage and File Systems
- 2025 **HPDC**, ACM International Symposium on High-Performance Parallel and Distributed Computing
- 2025 **ATC**, 2025 USENIX Annual Technical Conference
- 2025 **FAST**, 23<sup>rd</sup> USENIX Conference on File and Storage Technologies
- 2025 **PPoPP**, ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming
- 2025 **NSDI**, 22<sup>nd</sup> USENIX Symposium on Networked Systems Design and Implementation: Spring cycle + Fall cycle
- 2024 **SoCC**, ACM Symposium on Cloud Computing

- 2024 **HiPC**, 31<sup>st</sup> IEEE International Conference on High Performance Computing (HPC), Data, and Analytics
- 2024 **IEEE Cloud**, IEEE International Conference on Cloud Computing
- 2024 **HPDC**, ACM International Symposium on High-Performance Parallel and Distributed Computing
- 2024 **IPDPS**, IEEE International Parallel and Distributed Processing Symposium
- 2023 **SoCC**, ACM Symposium on Cloud Computing
- 2023 **HotStorage**, ACM Workshop on Hot Topics in Storage and File Systems
- 2023 **IEEE Cloud**, IEEE International Conference on Cloud Computing
- 2023 **HPDC**, ACM International Symposium on High-Performance Parallel and Distributed Computing
- 2023 **IPDPS**, IEEE International Parallel and Distributed Processing Symposium
- 2022 **NAS** (storage track), IEEE International Conference on Networking, Architecture, and Storage
- 2022 **KDD** (ERC), ACM SIGKDD International Conference on Data Mining
- 2022 **HiPS**, Workshop on High Performance Serverless Computing@HPDC 2022
- 2022 **SEC**, ACM/IEEE Symposium on Edge Computing
- 2022 **HPDC**, ACM International Symposium on High-Performance Parallel and Distributed Computing
- 2021 **REX-IO**, Workshop on Re-envisioning Extreme-Scale I/O for Emerging Hybrid HPC Workloads
- 2021 **ICDCS**, 41<sup>st</sup> IEEE International Conference on Distributed Computing Systems
- 2021 **SEC**, ACM/IEEE Symposium on Edge Computing
- 2021 **HPDC**, ACM International Symposium on High-Performance Parallel and Distributed Computing
- 2020 **PDSW-DISCS**, 5<sup>th</sup> International Parallel Data Systems Workshop
- 2020 **HPDC**, ACM International Symposium on High-Performance Parallel and Distributed Computing
- 2020 **ICDCS**, 40<sup>th</sup> IEEE International Conference on Distributed Computing Systems
- 2020 **SC**, International Conference for High Performance Computing, Networking, Storage, and Analysis
- 2020 **MSST**, 36<sup>th</sup> International Conference on Massive Storage Systems and Technology
- 2020 **CCGrid**, IEEE/ACM International Symposium in Cluster, Cloud, and Grid Computing
- 2019 **PDSW-DISCS**, 4<sup>th</sup> International Parallel Data Systems Workshop
- 2019 **MASCOTS**, 27<sup>th</sup> IEEE International Symposium on the Modeling, Analysis, and Simulation of Computer and Telecommunication Systems
- 2019 **IPDPS** (ERC), IEEE International Parallel and Distributed Processing Symposium
- 2019 **CCGrid** (ERC), IEEE/ACM International Symposium in Cluster, Cloud, and Grid Computing
- 2019 **BlockDM**, First IEEE International Workshop on Blockchain and Data Management
- 2019 **MSST**, 35<sup>th</sup> International Conference on Massive Storage Systems and Technology
- 2019 **HPDC**, ACM International Symposium on High-Performance Parallel and Distributed Computing

- 2018 **HPDC**, ACM International Symposium on High-Performance Parallel and Distributed Computing
- 2018 **ICS** (ERC), ACM International Conference on Supercomputing
- 2018 **IPDPS** (ERC), IEEE International Parallel and Distributed Processing Symposium
- 2018 **ICCCN**, International Conference on Mobile Systems and Pervasive Computing
- 2018 **MobiSPC**, International Conference on Computer Communications and Networks
- 2017 **BDCAT**, IEEE/ACM International Conference on Big Data Computing, Applications and Technologies

### Proposal Review Panels

- 2025 **DOE**, Office of Science, Advanced Scientific Computing Research (ASCR) Program
- 2025 **NSF**, Division of the Office of Advanced Cyberinfrastructure (OAC)
- 2025 **NSF**, Computer Systems Research (CSR) under the division of Computer and Network Systems (CNS)
- 2023 **DOE**, Office of Science, Advanced Scientific Computing Research (ASCR) Program
- 2021 **NSF**, Computer Systems Research (CSR) under the division of Computer and Network Systems (CNS)
- 2020 **NSF**, Computer Systems Research (CSR) under the division of Computer and Network Systems (CNS)
- 2019 **NSF**, Computer Systems Research (CSR) under the division of Computer and Network Systems (CNS)
- 2019 **NSF**, Software and Hardware Foundations (SHF) under the division of Computing and Communication Foundations (CCF)

### Shadow Technical Program Committees

- 2018 **EuroSys**, ACM European Conference on Computer Systems
- 2017 **EuroSys**, ACM European Conference on Computer Systems
- 2016 **EuroSys**, ACM European Conference on Computer Systems

### Journal Reviews

- 2025 **Nature Machine Intelligence**
- 2019 **TC**, IEEE Transactions on Computers
- 2019 **JPDC**, Journal of Parallel and Distributed Computing
- 2019 **TPDS**, IEEE Transactions on Parallel and Distributed Systems
- 2019 **TCC**, IEEE Transactions on Cloud Computing
- 2018 **TPDS**, IEEE Transactions on Parallel and Distributed Systems
- 2018 **TOS**, ACM Transactions on Storage
- 2018 **TCC**, IEEE Transactions on Cloud Computing
- 2017 **TOS**, ACM Transactions on Storage
- 2017 **TC**, IEEE Transactions on Computers
- 2017 **TAAS**, ACM Transactions on Autonomous and Adaptive Systems
- 2017 **JPDC**, Journal of Parallel and Distributed Computing
- 2016 **TPDS**, IEEE Transactions on Parallel and Distributed Systems
- 2015 **TPDS**, IEEE Transactions on Parallel and Distributed Systems