RASHMI VINAYAK

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rvinayak@cs.cmu.edu

ACADEMIC POSITIONS

- **Carnegie Mellon University, Computer Science Department**, Associate Professor, 2023-present.
- **Carnegie Mellon University, Computer Science Department**, Assistant Professor, 2017 - 2023.
- **UC Berkeley**, Berkeley, Post-doctoral researcher in AMPLab & BLISSLab, 2016-17.

EDUCATION

- **University of California at Berkeley, 2011-16**
  PhD, Electrical Engineering & Computer Science
- **Indian Institute of Science, Bangalore, India, 2008-10**
  Master of Engineering
- **National Institute of Technology Karnataka, Surathkal, India, 2003-07**
  Bachelor of Technology

AWARDS AND HONORS

- **Sloan Research Fellowship 2023**.
- **IEEE Information Theory Society Goldsmith Lecturer 2023** (awarded to one recepient per year).
- **Meta Research Award on Silent Data Corruptions at Scale 2022** (awarded to five recepients).
- **VMware Systems Research Award 2021** (awarded to one recepient per year).
- **USENIX NSDI'21 Community (Best Paper) Award** (one of the two best paper awards of the conference).
- Our paper recognized as **one of the best storage-related papers at USENIX OSDI 2020** and **invited to ACM Transactions on Storage**.
- **NSF CAREER Award** 2020-25.
- **Tata Institute of Fundamental Research Memorial Lecture Award 2019** (awarded to one recepient per year).
- **Facebook Distributed Systems Research Award 2019** (awarded to 8 recepients).
- **Google Research Award** 2019.
- **Facebook Communications and Networking Research Award 2018**.
- PhD thesis awarded **UC Berkeley Eli Jury Award 2016**, given for outstanding achievement in the area of Systems, Communications, Control, or Signal Processing.
- **Information Theory and Applications (ITA) Graduation Day speaker,** 2016.
- **Rising Stars in EECS** 2016.
- **Google Anita Borg Memorial Scholarship** 2015-16, for impact on diversity, demonstrated leadership and academic background.
- **Microsoft Research PhD Fellowship** 2013-15.
- **Facebook PhD Fellowship** 2012-13.
- **IEEE Data Storage Best Student Paper Award** and **Best Paper Award** for the years 2011/2012.

PUBLICATIONS

Google Scholar profile: Rashmi Vinayak's Google Scholar profile.

CONFERENCE PAPERS

- Y. Zhang, J. Yang, Y. Yue, Y. Vigfusson, K. V. Rashmi, "SIEVE: Simple and Efficient Eviction Policy for Turn-key Web Cache Replacement", in *USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, 2024 (to appear).

- A. Park, T. Leong, F. Maturana, W. Zheng, K. V. Rashmi, "Communication-efficient, Fault Tolerant PIR over Erasure Coded Storage", in *in IEEE Symposium on Security and Privacy (IEEE S&P)*, 2024 (to appear).

- J. Yang, Y. Zhang, Z. Qiu, Y. Yue, K. V. Rashmi, "FIFO queues are all you need for cache eviction", in *ACM Symposium on Operating Systems Principles (SOSP)* 2023.

- T. Zhang, K. Liu, J. Kosaian, J. Yang, K. V. Rashmi, "Efficient Fault Tolerance for Recommendation Model Training via Erasure Coding", in *International Conference on Very Large Databases (VLDB)*, 2023.

- F. Maturana and K. V. Rashmi,"Locally Repairable Convertible Codes: Erasure Codes for Efficient Repair and Conversion", in *IEEE International Symposium on Information Theory (ISIT)*, 2023.

- M. Rudow and K. V. Rashmi,"Learning-Augmented Streaming Codes for Variable-Size Messages Under Partial Burst Losses", in *IEEE International Symposium on Information Theory (ISIT)*, 2023.

- M. Rudow, V. Guruswami, and K. V. Rashmi,"On expanding the toolkit of locality-based coded computation to the coordinates of inputs", in *IEEE International Symposium on Information Theory (ISIT)*, 2023.

- M. Rudow, N. Charalambides, A. O. Hero III, and K. V. Rashmi,"Compression-Informed Coded Computing", in *IEEE International Symposium on Information Theory (ISIT)*, 2023.

- J. Yang, Z. Mao, Y. Yue, and K. V. Rashmi, "GL-Cache: Group-level learning for efficient and high-performance caching", in *USENIX USENIX Conference on File and Storage Technologies (FAST)*, 2023.

- S. Kadekodi, F. Maturana, S. Athlur, A. Merchant, K. V. Rashmi, and G. Ganger, "Tiger: disk-adaptive redundancy without placement restrictions", in *USENIX Operating Systems Design and Implementation (OSDI)*, 2022.

- J. Yang, A. Sabnis, D. S. Berger, K. V. Rashmi, R. K. Sitaraman, "C2DN: How to Harness Erasure Codes at the Edge for Efficient Content Delivery", in *USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, 2022.

- M. Rudow and K. V. Rashmi,"Learning-Based Streaming Codes are Approximately Optimal for Variable-Size Messages", in *IEEE International Symposium on Information Theory (ISIT)*, 2022.

- F. Maturana and K. V. Rashmi,"Bandwidth Cost of Code Conversions in the Split Regime", in *IEEE International Symposium on Information Theory (ISIT)*, 2022.

- J. Kosaian, and K. V. Rashmi, "Arithmetic-Intensity-Guided Fault Tolerance for Neural Network Inference on GPUs", in *International conference on high performance computing, networking, storage and analysis (SC)* 2021.

- J. Kosaian, A. Phanishayee, D. Dey, M. Philipose, and K. V. Rashmi, "Boosting the Throughput and Accelerator Utilization of Specialized CNNInference Beyond Increasing Batch Size", in *International Conference on Machine Learning (ICML)* 2021.

- J. Yang, Y. Yue, K. V. Rashmi, "Segcache: memory-efficient and high-throughput DRAM cache for small objects", in *USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, 2021.

- F. Maturana and K. V. Rashmi, "Irregular Array Codes with Arbitrary Access Sets for Geo-Distributed Storage", in *IEEE International Symposium on Information Theory (ISIT)*, 2021.

- M. Rudow, K. V. Rashmi and V. Guruswami, "A locality-based lens for coded computation", in *IEEE International Symposium on Information Theory (ISIT)*, 2021.

- F. Maturana and K. V. Rashmi, "Bandwidth Cost of Code Conversions in Distributed Storage: Fundamental Limits and Optimal Constructions", in *IEEE International Symposium on Information Theory (ISIT)*, 2021.

- S. Kadekodi, F. Maturana, S. J. Subramanya, J. Yang, K. V. Rashmi, and G. Ganger, "Pacemaker: Avoiding HeART attacks in storage clusters with disk-adaptive redundancy", in *USENIX Operating Systems Design and Implementation (OSDI)*, 2020.

- J. Yang, Y. Yue, and K. V. Rashmi, "A large scale of analysis of hundreds of in-memory cache clusters at Twitter", in *USENIX Operating Systems Design and Implementation (OSDI)*, 2020.

- F. Maturana and K. V. Rashmi,"Convertible Codes: New Class of Codes for Efficient Conversion of Coded Data", in *Innovations in Theoretical Computer Science (ITCS) 2020.*

- M. Rudow and K. V. Rashmi, "Online Versus Offline Rate in Streaming Codes for Variable-Size Messages", in *IEEE International Symposium on Information Theory (ISIT)*, 2020.

- F. Maturana, C. Mukka, and K. V. Rashmi, "Access-optimal Linear MDS Convertible Codes for All Parameters", in *IEEE International Symposium on Information Theory (ISIT)*, 2020.

- J. Kosaian, K. V. Rashmi, and S. Venkataraman, "Parity Models: Erasure-Coded Resilience for Prediction Serving Systems", in *ACM Symposium on Operating Systems Principles (SOSP)* 2019.

- D. Ray, J. Kosaian, K. V. Rashmi, and S. Seshan, "Optimizing video upload for time-shifted viewing of social live streams", in *ACM SIGCOMM*, 2019.

- S. Kadekodi, K. V. Rashmi, and G. Ganger, "Cluster storage systems gotta have HeART: improving storage efficiency by exploiting disk-reliability heterogeneity", in *USENIX Conference on File and Storage Technologies (FAST)*, 2019.

- M. Rudow and K. V. Rashmi, "Streaming Codes for Variable-Size Arrivals", in *Proceedings of Allerton Conference on Communication, Control, and Computing*, 2018.

- K. V. Rashmi, M. Chowdhury, J. Kosaian, I. Stoica and K. Ramchandran, "EC-Cache: Load-Balanced, Low-Latency Cluster Caching with Online Erasure Coding," in *USENIX Operating Systems Design and Implementation (OSDI)*, 2016.

- P. Nakkiran, K. V. Rashmi, and K. Ramchandran, "Optimal Systematic Distributed Storage Codes with Fast Encoding," in *IEEE International Symposium on Information Theory (ISIT)*, 2016.

- K. V. Rashmi, P. Nakkiran, J. Wang, N. Shah, K. Ramchandran, "Having Your Cake and Eating It Too: Jointly Optimal Codes for I/O, Storage and Network-bandwidth In Distributed Storage Systems," in *USENIX Conference on File And Storage Technologies (FAST)*, 2015.

- K. V. Rashmi, and R. Gilad-Bachrach, "DART: Dropouts meet Multiple Additive Regression Trees," in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2015.

- K. V. Rashmi, N. Shah, D. Gu, H. Kuang, D. Borthakur and K. Ramchandran, "A "Hitchhiker's" Guide to Fast and Efficient Data Reconstruction in Erasure-coded Data Centers," ACM SIGCOMM, 2014.

- N. Shah, K. V. Rashmi, K. Ramchandran, "One Extra Bit of Download Ensures Perfectly Private Information Retrieval," in *IEEE International Symposium on Information Theory (ISIT)*, 2014.

- P. Nakkiran, N. Shah, K. V. Rashmi, "Fundamental Limits on Communication for Oblivious Updates in Storage Networks", in *IEEE Global Communications Conference (GLOBECOM)*, 2014.

- K. V. Rashmi, N. Shah and K. Ramchandran, "A Piggybacking Design Framework for Read-and Download-efficient Distributed Storage Codes," in *IEEE International Symposium on Information Theory (ISIT)*, 2013.

- N. Shah, K. V. Rashmi, and K. Ramchandran, "Efficient and Distributed Secret Sharing in General Network," in *IEEE International Symposium on Information Theory (ISIT)*, 2013.

- K. V. Rashmi, N. Shah, K. Ramchandran and P. Kumar, "Regenerating Codes for Errors and Erasures in Distributed Storage," in *IEEE International Symposium on Information Theory (ISIT)*, 2012.

- K. V. Rashmi, N. Shah and P. Kumar, "Enabling Node Repair in Any Erasure Code for Distributed Storage," in *IEEE International Symposium on Information Theory (ISIT)*, 2011.

- N. Shah, K. V. Rashmi, and P. Kumar, "Information-theoretically Secure Regenerating Codes for Distributed Storage," in *IEEE Global Communications Conference (GLOBECOM)*, 2011.

- K. V. Rashmi, N. Shah, P. Kumar and K. Ramchandran, "Explicit and Optimal Exact-Regenerating Codes for the Minimum-Bandwidth Point in Distributed Storage," in *IEEE International Symposium on Information Theory (ISIT)*, 2010.

- N. Shah, K. V. Rashmi, and P. Kumar, "A Flexible Class of Regenerating Codes for Distributed Storage," in *IEEE International Symposium on Information Theory (ISIT)*, 2010.

- K. V. Rashmi, N. Shah, P. Kumar and K. Ramchandran, "Explicit construction of optimal exact regenerating codes for distributed storage," in *Allerton Conference on Control, Computing and Communication*, 2009.

JOURNAL PAPERS

- Francisco Maturana and K. V. Rashmi, "Bandwidth Cost of Code Conversions in Distributed Storage: Fundamental Limits and Optimal Constructions", in *IEEE Transactions on Information Theory*, 2023.

- Michael Rudow and K. V. Rashmi, "Online Versus Offline Rate in Streaming Codes for Variable-Size Messages", in *IEEE Transactions on Information Theory*, 2023.

- Francisco Maturana and K. V. Rashmi, "Convertible Codes: Enabling Efficient Conversion of Coded Data in Distributed Storage", in *IEEE Transactions on Information Theory*, 2022.

- Michael Rudow and K. V. Rashmi, "Streaming Codes for Variable-Size Messages", *IEEE Transactions on Information Theory*, 2022.

- Juncheng Yang, Yao Yue, and K. V. Rashmi, "A large scale of analysis of hundreds of in-memory cache clusters at Twitter", in *ACM Transactions on Storage (TOS)*, 2021.

- Jack Kosaian, K. V. Rashmi, and Shivaram Venkataraman, "Learning-Based Coded-Computation," *IEEE Journal on Selected Areas in Information Theory, March 2020.*

- K. V. Rashmi, N. Shah, K. Ramchandran, and P. Kumar, "Information-theoretically Secure Erasure Codes for Distributed Storage," *IEEE Transactions on Information Theory, Vol. 64, no. 3, pp. 1621 - 1646, Mar. 2018.*

- K. V. Rashmi, N. Shah and K. Ramchandran, "A Piggybacking Design Framework for Read-and Download-efficient Distributed Storage Codes," *IEEE Transactions on Information Theory, vol. 63, no. 9, pp. 5802–5820, Sept. 2017.*

- N. B. Shah, K. V. Rashmi and K. Ramchandran," Distributed Secret Dissemination Across a Network ," *IEEE Journal of Selected Topics in Signal Processing*, vol. 9, no. 7, pp. 1206-1216, Oct. 2015.

- N. B. Shah, K. V. Rashmi, P. V. Kumar and K. Ramchandran, "Distributed Storage Codes with Repair-by-Transfer and Non-achievability of Interior Points on the Storage-Bandwidth Tradeoff," *IEEE Transactions on Information Theory*, vol. 58, no. 3, 1837 - 1852, Mar. 2012.

- N. B. Shah, K. V. Rashmi, P. V. Kumar and K. Ramchandran,"Interference Alignment in Regenerating Codes for Distributed Storage: Necessity and Code Constructions," *IEEE Transactions on Information Theory*, Apr. 2012.

- K. V. Rashmi, N. B. Shah and P. V. Kumar, "Optimal Exact-Regenerating Codes for the MSR and MBR Points via a Product-Matrix Construction," *IEEE Transactions on Information Theory*, vol. 57, no. 8, pp. 5227 - 5239, Aug. 2011.

WORKSHOP PAPERS

- J. Yang , Z. Qiu, Y. Zhang, Y. Yue, K. V. Rashmi, "FIFO Can be Better than LRU: the Power of Lazy Promotion and Quick Demotion", in *Workshop on Hot Topics in Operating Systems (HotOS)*, 2023.

- K. Liu, J. Kosaian, K. V. Rashmi, "Erasure-Coding-Based Fault Tolerance for Recommendation Model Training", in *International Symposium on Checkpointing for Supercomputing (SuperCheck-SC 21), workshop held in conjunction with ACM SC*, 2021.

- K. Liu, J. Kosaian, and K. V. Rashmi, "Erasure-Coding-Based Fault Tolerance for Recommendation Model Training," in *Personalized Recommendation Systems and Algorithms Workshop (PeRSonAl), workshop held in conjunction with MLSys* 2021.

- M. Rudow, K. V. Rashmi, and V. Guruswami, "Locality driven coded computation", in *Coding Theory and Machine Learning (CodML) workshop at ICML*, 2019.

- K. V. Rashmi, N. Shah, D. Gu, H. Kuang, D. Borthakur and K. Ramchandran, "A Solution to the Network Challenges of Data Recovery in Erasure-coded Distributed Storage Systems: A Study on the Facebook Warehouse Cluster," in *USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage)*, 2013.

PROFESSIONAL SERVICE

ORGANIZING COMMITTEES
- ACM Symposium on Operating Systems Principles (SOSP) 2023, Student Scholarship Chair.

PROGRAM COMMITTEES
- ACM ACM Symposium on Operating Systems Principles (SOSP) 2024
- USENIX Symposium on Networked Systems Design and Implementation (NSDI) 2024
- USENIX Symposium on Operating Systems Design and Implementation (OSDI) 2022
- Conference on Machine Learning and Systems (MLSys) 2022
- IEEE International Symposium on Information Theory (ISIT) 2022
- USENIX Symposium on Operating Systems Design and Implementation (OSDI) 2021
- IEEE International Symposium on Information Theory (ISIT) 2021
- Conference on Machine Learning and Systems (MLSys) 2021
- USENIX Symposium on Networked Systems Design and Implementation (NSDI) 2021 (External PC)
- USENIX Symposium on Operating Systems Design and Implementation (OSDI) 2020
- USENIX Symposium on Networked Systems Design and Implementation (NSDI) 2020
- International Conference on Machine Learning (ICML) 2019 CodML Workshop 2019
- USENIX Symposium on Operating Systems Design and Implementation (OSDI) 2018
- SysML 2018

DIVERSITY, EQUITY AND INCLUSION ACTIVITIES
- **Co-chair, Women in IEEE Information Theory Society (WITHITS)**, 2022-24.
- Speaker, **Pittsburgh Women in Mathematics and Computing Symposium (WMCS)**, 2023
- Mentor, **ACM SOSP 2023 mentoring program**, 2023.
- **Women in IEEE Information Theory Society (WITHITS)**, co-host for the coding theory round table at IEEE ISIT 2021.
- **N2Women Panel**, USENIX NSDI, 2021.

- Mentor, **ACM SOSP 2021 mentoring program**, 2021.
- Mentor, **USENIX OSDI/ATC 2021 mentoring program**, 2021.
- Committee member on **a new course on Diversity, Equity, and Inclusion**, Computer Science Department, CMU, 2021.
- **SCS4All, School of Computer Science, CMU**, 2017 - present.
- **Women@SCS, School of Computer Science, CMU**, 2017 - present.
- **Women in IEEE Information Theory Society (WITHITS)**, panelist in "women in academia" at Bombay Information Theory Seminar 2020.
- **Women in Academia, Alpha Chi Omega**, CMU, 2020.
- **Diversity Committee, Electrical Engineering & Computer Science (EECS) Department, UC Berkeley**, 2014-15.
- **Rising Stars in EECS organizer - An academic career workshop for women, UC Berkeley**, Volunteer Organizer, 2014.
- **Undergraduate Mentoring Program, Women in Computer Science and Engineering (WICSE), UC Berkeley**, Mentor, 2014-16.
- **Women in Computer Science and Engineering (WICSE), UC Berkeley**, Officer, 2013-14.
- **Big Sister Mentoring Program, Women in Computer Science and Engineering (WICSE), UC Berkeley**, Mentor, 2012-2016.

OTHER SERVICE

- **NSF proposal review panel**, 2023.
- **NSF proposal review panel**, 2021.
- **Journal reviewing**: ACM Transactions on Computer Systems, ACM Transactions on Storage, IEEE Transactions on Information Theory, IEEE Transactions on Computers, IEEE Communication Letters, IEEE Signal Processing Maganize.

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- ACM, USENIX, IEEE

TALKS

- **UC Santa Cruz ECE Department Seminar**, 2023
  "Improving Resource Efficiency and Reliability in Large-scale Storage Systems"
- **IEEE European Summer School on Information Theory**, 2023
  "Coding theory for distributed systems"
- **JTG/IEEE Indian Summer School on Information Theory**, 2023
  "Coding theory for distributed systems"
- **EURECOM, France**, 2023
  "Disk-adaptive Coding for Distributed Storage: Theory and Systems"
- **Information Theory and Applications (ITA) Workshop**, 2023
  "Disk-adaptive Coding for Distributed Storage: Theory and Systems"
- **Microsoft Research India**, 2023
  "DARE: Disk-Adaptive Redundancy for Improving Efficiency in Storage Systems"
- **VMware Company-Wide R&D Innovation Offsite (RADIO) Seminar**, 2022
  "Efficient, Performant, and Resilient Data Storage and Caching Systems"

- **VMware Data Storage Team Seminar**, 2022
  "Efficient, Performant, and Resilient Data Storage and Caching Systems"
- **Stanford Information Theory Forum**, 2021
  "Convertible Codes: Enabling Redundancy Tuning in Large-scale Storage Systems"
- **Rutgers Signal and Information Processing Seminar Series**, 2021
  "Convertible Codes: Enabling Redundancy Tuning in Large-scale Storage Systems"
- **American Mathematical Society Fall Central Sectional Meeting**, 2021
  "Convertible Codes: Efficient Conversion of Coded Data for Large-scale Storage Systems"
- **Information Theory Workshop (ITW) Special Session on Frontiers of Coding Theory and Practice**, 2021
  "Convertible Codes: Enabling Efficient Conversion of Coded Data in Distributed Storage"
- **UW Madison Systems Information Learning and Optimization (SILO) Seminar**, 2021
  "Convertible Codes: Efficient Conversion of Coded Data in Large-scale Storage Systems"
- **Stanford Compression Workshop**, 2021
  "Learning-Based Coded-Computation"
- **Facebook Distributed Systems Faculty Summit**, 2020
  "Resource-efficient cluster storage by exploiting disk-reliability heterogeneity"
- **IEEE International Symposium on Information Theory (ISIT) 2020 Live Panel Session on "Machine-learning based approaches to coding"**, 2020
  "Learning-based approaches to coded computation"
- **Shannon Channel Seminar**, 2020
  "Convertible Codes: A New Class of Codes for Efficient Conversion of Coded Data in Distributed Storage"
- **Information Theory and Applications (ITA) Workshop**, 2020
  "A locality based approach for coded computation"
- **BITS(Bombay Information Theory Seminar) Workshop Tutorial**, 2020
  "Resilient and Efficient Distributed Storage and Computation via Coding Theoretic Tools"
- **Tata Institute of Fundamental Research**, 2020
  "Convertible Codes: A New Class of Codes for Efficient Conversion of Coded Data in Distributed Storage"
- **AISystems Workshop at ACM SOSP**, 2019
  "Learning based coded-computation: A novel approach for resilient computation in ML inference systems"
- **Microsoft Research Redmond**, 2019
  "Resource-efficient redundancy for large-scale data processing and storage systems"
- **Facebook Communications and Networking Faculty Summit**, 2019
  "Vantage: Optimizing Video Upload for Time-shifted Viewing of Social Livestreams"
- **ICML Workshop on Coding Theory for Large-Scale Machine Learning**, 2019
  "Coded-Computation for ML Inference: Learning-based approac"
- **Information Theory and Applications (ITA) Workshop**, 2019
- **Indian Institute of Science**, 2019
  "Smart Redundancy for Big data Systems: Theory and Practice"
- **Microsoft Research**, 2017
  "Smart Redundancy for Big data Systems: Theory and Practice"
- **Princeton University**, 2017
  "Smart Redundancy for Big data Systems: Theory and Practice"

- **Carnegie Mellon University**, 2017
  "Smart Redundancy for Big data Systems: Theory and Practice"
- **Cornell University**, 2017
  "Smart Redundancy for Big data Systems: Theory and Practice"
- **Massachusetts Institute of Technology**, 2017
  "Smart Redundancy for Big data Systems: Theory and Practice"
- **University of Illinois Urbana Champaign**, 2017
  "Smart Redundancy for Big data Systems: Theory and Practice"
- **University of Pennslyvania**, 2017
  "Smart Redundancy for Big data Systems: Theory and Practice"
- **University of Southern California**, 2017
  "Smart redundancy for big-data systems: Theory and Practice"
- **Stanford Information Theory Forum**, Oct. 2016
  "Erasure coding for big-data systems: Theory and Practice"
- **Alluxio Inc.**, Sept. 2016
  "EC-Cache: Load-Balanced, Low-Latency Cluster Caching with Online Erasure Coding"
- **Cisco**, July 2016
  "Erasure coding for next-generation distributed storage systems"
- **AMPLab Berkeley Retreat**, June 2016
  "EC-Cache: Load-balanced, Low-latency Cluster Caching with Online Erasure Coding"
- **Information Theory and Applications (ITA) workshop**, Feb. 2016
  "A Hitchhiker's Guide to Resource-Efficient Fault Tolerance in Data Centers: Theory & Practice"
- **Allerton conference on Communication, Control, and Computing, Special session on coding theory**, Oct. 2015
  "Piggybacking for Fast and Efficient Data Reconstruction in Erasure-Coded Data Centers"
- **Google**, June 2015
  "A Hitchhiker's Guide to Fast and Efficient Data Reconstruction in Erasure-coded Data Centers"
- **AMPLab Retreat**, Jan. 2015
  "Hitchhiker: Efficient Erasure Coding for Data Centers"
- **NetApp**, Oct. 2014
  "Piggybacking and Hitchhiker: Retaining the Angels but not the Demons of Reed-Solomon"
- **Facebook**, Feb. 2012
  "Erasure coding for distributed storage systems"

TEACHING

CMU

- **Distributed Systems**, Spring 2024, Undergraduate course
- **Algorithms in the Real World**, Fall 2023, Graduate course
- **Algorithms in the Real World**, Spring 2022, Graduate course
- **Distributed Systems**, Fall 2021, Undergraduate course
- **Graduate Algorithms**, Spring 2021, Graduate course
- **Distributed Systems**, Fall 2020, Undergraduate course
- **Distributed Systems**, Spring 2020, Undergraduate course
- **Algorithms in the Real World**, Fall 2019, Graduate course

- **Practical information and coding theory for computer systems**, Fall 2018, Graduate course
- **Probability and computing**, Spring 2018, Undergraduate course

UC BERKELEY (Graduate Student Instructor)
- **Random Processes in Systems**, Fall 2015, Graduate course
- **Coding Theory for Communication and Beyond**, Fall 2013, Undergraduate course

STUDENTS

CURRENT PHD STUDENTS
- Juncheng Yang
- Sanjith Athlur (co-advised with Greg Ganger)
- Timothy Kim (co-advised with Greg Ganger)
- Yixuan Mei

GRADUATED PHD STUDENTS
- Saurabh Kadekodi, co-advised with Prof.Greg Ganger, 2020 (First emploment: Postdoctoral researcher at Google Research)
- Jack Kosaian, 2022 (First employment: Nvidia)
- Michael Rudow, 2023 (First employment: McKinsey & Company)
- Francisco Maturana (First employment: Amazon Web Services)

MASTERS STUDENTS
- Saransh Chopra, 5th year Master's program in CS, 2023-present
- Justin Zhang, 5th year Master's program in CS, 2023-present
- Jiyu Hu, Independent Study, 2023
- Timothy Kim, Independent Study, 2022
- Abhishek Kumar, Timothy Kim, Independent Study, 2022
- Shaobo Guan, Master's Capstone project, 2021
- Kaige Liu , 5th year Master's program in CS, 2020
- Arvind Sai Krishnan and Vilas Bhat, Master's Capstone project, 2020
- Jiaan Dai, Jiaqi Zuo, Jiongtao Ye, Sai Kiriti Badam, and Xuren Zhou, Master's Capstone project, 2019

UNDERGRADUATE STUDENTS
- Justin Zhang (CMU), 2022-23
- Tianyu Zhang (CMU), 2022-23
- Ziming Mao (Yale), 2022
- Justin Zhang (CMU), 2022
- Ian Chiu (CMU), 2019-2020
- Eliot Robson (CMU), Spring 2018
- Chaitanya Mukka (IISc), Fall 2019
- Sanya Agarwal (CMU), Summer 2019