Janki Bhimani

Assistant Professor, Knight Foundation School of Computing and Information Science
Florida International University

jbhimani@fiu.edu · Linkedin · Google Scholar · Mobile: +1(857)991-9868
(*Please visit my Website for the most updated information.*)

RESEARCH INTERESTS

System Design, Memory Management; Storage Systems; Computer Architecture; Optimization, Modeling, and Prediction; Resource Management; Cloud Computing; Machine Learning; Capacity Planning; High Performance Storage and Computing; Emerging Non-Volatile Memories;

HIGHLIGHTS

Research:

[Grants.] • Grants: Secured **$6 million** in research funding from **NSF, Cyber Florida, and Samsung Semiconductors** with **$3 million as PI**. Received **NSF CAREER** award in 2024. Other **three proposals** under review. Future plans include applying for large collaborative grants from DOE, NSF, and AFOSR.

[Awards, Publications, and Patents.] Contributed significantly with **10 high-impact journal articles**, **35 peer-reviewed conference papers**, **10 patents** as lead inventor, and over **900 citations**. Recognized with Awards including **FIU Top Scholar**, **KFSCIS Excellence in Applied Research**, **Distinguished Reviewer**, and **Best Paper Awards**.

[Student Advising/Mentoring.] **Graduated one Ph.D. student**, who is Assistant Professor, mentored eight Hispanics, one Asian American, and three women in the past five years.

[Collaborations.] Established collaborations with institutions like the University of Maryland, University of Chicago, Argonne National Lab, Syracuse University, and industry leaders Samsung Semiconductors and IBM Research.

Teaching:

Designed and taught **three core courses**, achieving an **average student feedback rating of 4.13/5**. Secured **Quality Matters (QM) certification** for courses. Led curriculum update efforts to design and integrate a Data Structures course taught in multiple programming languages. Implemented **module-based content distribution** with live feedback, and class projects on **Chameleon cloud platform**.

Service:

Contributed to FIU's growth, serving on the **Faculty Hiring Committee, Awards Committee, CEC Faculty Council, Subject area coordinator, Graduate Committee, DEI Committee**, and as **Seminar Series Coordinator**. Led roles such as **Associate Editor for ACM TACO Journal**, **General Chair and Publicity Chair** for ACM HotStorage, **Program Committee Track Chair** for CCGRID, and **Poster Chair** for HPDC. Extensive service as a **TPC member** for conferences like USENIX FAST, IPDPS, CLOUD. Volunteering at the **Center for Women and Gender Studies**. Received **Grace Hopper Celebration of Women in Computing (GHC) Faculty Scholarship** for two years and Certificate of Completion from **ASEE DELTA Junior Faculty Institute**. Participated in **STRIDE**

workshop for hiring, tenure, and promotion, **Diversity Advocate** workshop, and **Bystander Leadership** workshop.

EDUCATION

Doctor of Philosophy (Ph.D.), Computer Engineering Aug 2019
Northeastern University, Boston, MA, USA
Dissertation: Enhancing Efficiency and Endurance of Flash-Based Storage for Big Data Processing on Enterprise Cloud and Datacenter

Master of Science (M.S.), Computer Engineering Jan 2016
Northeastern University, Boston, MA, USA
M.S. research: FiM - Fine grained Model to Predict Heterogeneous Computing Platforms Performance

Bachelor of Technology (B.Tech), Electrical & Electronics Engineering Aug 2013
GITAM University, Vishakhapatnam, India
Major: Robotics and Programming of Embedded Systems, Minor: Circuit Design, Power Management

FULL-TIME ACADEMIC EXPERIENCE

Assistant Professor Aug 2019 - Current
Knight Foundation School of Computing and Information Science
Florida International University, Miami FL, USA

PART-TIME ACADEMIC EXPERIENCE

Volunteering Affiliated Faculty Aug 2019 - Current
Center for Women's and Gender Studies (CWGS)
Florida International University, Miami FL, USA

Instructor Sep 2017 - Dec 2017
College of Engineering
Northeastern University, Boston MA, USA

Graduate Research and Teaching and Assistant May 2014 - Jun 2019
Khoury College of Computer Science and College of Engineering
Northeastern University, Boston MA, USA

Undergraduate Research Assistant Jul 2009 - Apr 2013
Electrical and Electronics Engineering
GITAM University, Vishakhapatnam, India

NON-ACADEMIC EXPERIENCE

Software Development Infrastructure Engineer May 2018 - Aug 2018
Samsung Semiconductors Inc. Research Lab, San Jose, CA, USA

Performance Engineer May 2017 - Aug 2017
Samsung Semiconductors Inc. Research Lab, San Jose, CA, USA

Engineer - Performance Architect May 2016 - Aug 2016
Samsung Semiconductors Inc. Research Lab, San Jose, CA, USA

Student Chair May 2011 - May 2013
GITAM University Student Activity Center (GUSAC), India

IC Design Intern Jun 2012 - Jul 2012
Energy Options, Rajkot, India

NASA STEM Engagement May 2012 - Jun 2012
NASA's John F. Kennedy Space Center, FL, USA

EMPLOYMENT RECORD AT FIU

Assistant Professor Aug 2019 - Current
School of Computing and Information Science
Florida International University, Miami FL, USA

Volunteering Affiliated Faculty Aug 2019 - Current
Center for Women's and Gender Studies (CWGS)
Florida International University, Miami FL, USA

PUBLICATIONS IN DISCIPLINE

(Indicates an FIU student supervised by myself.)*
Citation counts are taken from my Google Scholar Profile, which lists the following statistics: Total citations: 978, h-index: 16, i10-index: 22.

[Total 45 - 20 FIU (13 with FIU students supervised by myself) and 25 Pre-FIU]

Selective Refereed Journal Publications

1. Danlin Jia, Li Wang, Natalia Valencia*, Janki Bhimani, Bo Sheng and Ningfang Mi. Learning-based Dynamic Memory Allocation Schemes for Apache Spark Data Processing. IEEE Transactions on Cloud Computing (TCC) 2023. Tier 1 Journal with impact factor 11.1.
2. Ajinkya S Bankar, Shi Sha, Janki Bhimani, Vivek Chaturvedi, Gang Quan. Thermal Aware System-Wide Reliability Optimization for Automotive Distributed Computing Applications. IEEE Transactions on Vehicular Technology (TVT) 2022. Tier 1 Journal with impact factor 2.243.
3. Janki Bhimani, Zhengyu Yang, Jingpei Yang, Adnan Maruf*, Ningfang Mi, Rajinikanth Pandurangan, Changho Choi, Vijay Balakrishnan. Automatic Stream Identification to Improve Flash Endurance in Data Centers. ACM Transactions on Storage (TOS) 2021. Tier 1 Journal with impact factor 1.59.
4. Janki Bhimani, Adnan Maruf*, Ningfang Mi, Rajinikanth Pandurangan, and Vijay Balakrishnan. Auto-Tuning Parameters for Emerging Multi-Stream Flash-Based Storage Drives Through New I/O Pattern Generations. IEEE Transactions on Computers (TC) 2020. Tier 1 Journal with impact factor 3.131.
5. Janki Bhimani, Ningfang Mi, Miriam Leeser, and Zhengyu Yang, New Performance Modeling Methods for Parallel Data Processing Applications, ACM Transactions on Modeling

and Computer Simulation (TOMACS), 2019. DOI 10.1145/3309684. Tier 1 Journal with impact factor 1.380.

6. Zhengyu Yang, Manu Awasthi, Mrinmoy Ghosh, Janki Bhimani, and Ningfang Mi, I/O Workload Management for All-Flash Datacenter Storage Systems Based on Total Cost of Ownership, IEEE Transactions on Big Data (TBDATA), Special Issue on the Integration of Extreme Scale Computing and Big Data Management and Analytics, 2018. DOI 10.1109/TBDATA.2018.2871114. Tier 1 Journal with impact factor 2.

7. Janki Bhimani, Zhengyu Yang, Ningfang Mi, Jingpei Yang, Qiumin Xu, Manu Awasthi, Rajinikanth Pandurangan, and Vijay Balakrishnan, Docker Container Scheduler for I/O Intensive Applications running on NVMe SSDs, IEEE Transactions on Multi-Scale Computing Systems (TMSCS), 2018. DOI: 10.1109/TMSCS.2018.2801281. Tier 1 Journal with impact factor 2.065.

8. Zhengyu Yang, Janki Bhimani, Yi Yao, Cho-Hsien Lin, Jiayin Wang, Ningfang Mi, and Bo Sheng, AutoAdmin: Admission Control in YARN Clusters Based on Dynamic Resource Reservation, Scalable Computing: Practice and Experience, Special Issue on Advances in Emerging Wireless Communications and Networking (SCPE), 2018. Volume 19, Number 1, pp. 53–67.

9. Zhengyu Yang, Yufeng Wang, Janki Bhimani, Chiu C. Tan, and Ningfang Mi, EAD: Elasticity Aware Deduplication Manager for Datacenters with Multi-tier Storage Systems, Cluster Computing (CC), 2018. https://doi.org/10.1007/s10586-018-2141-z.

10. Zhengyu Yang, Janki Bhimani, Jiayin Wang, David Evans, and Ningfang Mi, Automatic and Scalable Data Replication Manager in Distributed Computation and Storage Infrastructure of Cyber-Physical Systems, Scalable Computing: Practice and Experience, Special Issue on Communication, Computing, and Networking in Cyber-Physical Systems (SCPE), 2018. Volume 18, Number 4, pp. 291–311.

Highly Selective Peer Reviewed Conference Publications
Acceptance rates below 30%

11. Manoj Saha*, Danlin Jia, Janki Bhimani and Ningfang Mi, MoKE: Modular Key-value Emulator for Realistic Studies on Emerging Storage Devices, 2023 IEEE International Conference on Cloud Computing (CLOUD'23), Hybrid Event, Chicago, IL, 2023.

12. Ziyang Jiao, Janki Bhimani, Bryan S. Kim, Wear Leveling in SSDs Considered Harmful, 2022 ACM Workshop on Hot Topics in Storage and File Systems (HotStorage '22), Virtual. *(Best Paper Award)*

13. Adnan Maruf*, Sashri Brahmakshatriya*, Baolin Li, Devesh Tiwari, Gang Quan and Janki Bhimani, Do Temperature and Humidity Exposures Hurt or Benefit Your SSDs?, 2022 Design, Automation and Test in Europe Conference. The European Event for Electronic System Design and Test (DATE'22), Virtual. Acceptance Rate: 25%. *(Best Paper Award Nomination)*

14. Adnan Maruf*, Ashikee Ghosh*, Janki Bhimani, Daniel Campello, Andy Rudoff, Raju Rangaswami, MULTI-CLOCK: Dynamic Tiering for Hybrid Memory Systems, 2022 IEEE International Symposium on High-Performance Computer Architecture (HPCA'22), Seoul, South Korea, 2022. Acceptance Rate: 30%.

15. Adnan Maruf*, Zhengyu Yang, Bridget Davis, Daniel Kim, Jeffrey Wong, Matthew Durand, and Janki Bhimani, Understanding Flash-Based Storage I/O Behavior of Games, 2021 IEEE International Conference on Cloud Computing (CLOUD'21), Online Virtual Congress, 2021. Acceptance Rate: 23.8%.

16. Janki Bhimani, Jingpei Yang, Ningfang Mi, Changho Choi, and Manoj Pravakar Saha*, Fine-grained Control of Concurrency within KV-SSDs, 2021 14th ACM International Systems and Storage Conference (SYSTOR'21), Virtual. Acceptance Rate: 29.9%.

17. Manoj Pravakar Saha*, Bryan Kim, and Janki Bhimani, KV-SSD: What is it Good For?, 2021 Design Automation Conference (DAC'21), San Francisco, CA, 2021. Acceptance Rate: 23%.

18. Danlin Jia, Manoj Pravakar Saha*, Janki Bhimani, and Ningfang Mi, Performance and Consistency Analysis for Distributed Deep Learning Applications, 2020 International Performance Computing and Communications Conference (IPCCC'20), Virtual using Zoom, 2020. Acceptance Rate: 29.3%.

19. Janki Bhimani, Rajinikanth Pandurangan, Ningfang Mi, and Vijay Balakrishnan, Emulate Processing of Assorted Database Server Applications on Flash-Based Storage in Datacenter Infrastructures, 2019 International Performance Computing and Communications Conference (IPCCC'19), London, UK, 2019. Acceptance Rate: 29.2%.

20. Danlin Jia, Janki Bhimani, Son Nam Nguyen, Bo Sheng, and Ningfang Mi, ATuMm: Autotuning Memory Manager in Apache Spark, 2019 International Performance Computing and Communications Conference (IPCCC'19), London, UK, 2019. Acceptance Rate: 29.2%.

21. Janki Bhimani, Tirthak Patel, Ningfang Mi, and Devesh Tiwari, "What does Vibration do to Your SSD?", 2019 Design Automation Conference (DAC'19), Las Vegas, NV, 2019. Acceptance Rate: 24.3%.

22. Janki Bhimani, Ningfang Mi, Zhengyu Yang, Jingpei Yang, Rajinikanth Pandurangan, Changho Choi and Vijay Balakrishnan, "FIOS: Feature Based I/O Stream Identification for Improving Endurance of Multi-Stream SSDs", 2018 IEEE International Conference on Cloud Computing (CLOUD'18), San Francisco, CA, 2018. Acceptance Rate: 15%. *(Best Paper Award)*

23. Janki Bhimani, Ningfang Mi, and Bo Sheng, "BloomStream: Data Temperature Identification for Flash Based Memory Storage Using Bloom Filters", 2018 IEEE International Conference on Cloud Computing (CLOUD'18), San Francisco, CA, 2018. Acceptance Rate: 15%.

24. Zhengyu Yang, Morteza Hoseinzadeh, Ping Wong, John Artoux, Clay Mayers, David Thomas Evans, Rory Thomas Bolt, Janki Bhimani, Ningfang Mi, and Steven Swanson, "H-NVMe: A Hybrid Framework of NVMe-based Storage System in Cloud Computing Environment", IEEE International Performance Computing and Communications Conference (IPCCC'17), San Diego, CA, 2017. *(Best Paper Award)*

25. Zhengyu Yang, Morteza Hoseinzadeh, Allen Andrews, Clay Mayers, David Thomas Evans, Rory Thomas Bolt, Janki Bhimani, Ningfang Mi, and Steven Swanson, "AutoTiering: Automatic Data Placement Manager in Multi-Tier All-Flash Datacenter", IEEE International Performance Computing and Communications Conference (IPCCC'17), San Diego, CA, 2017.

26. Janki Bhimani, Ningfang Mi, Miriam Leeser, and Zhengyu Yang, "FiM: Performance Prediction Model for Parallel Computation in Iterative Data Processing Applications", IEEE International Conference on Cloud Computing (CLOUD'17), Honolulu, HI, 2017. Acceptance Rate: 18%.

27. Han Gao, Zhengyu Yang, Janki Bhimani, Teng Wang, Jiayin Wang, Ningfang Mi, and Bo Sheng, "AutoPath: Harnessing Parallel Execution Paths for Efficient Resource Allocation in Multi-Stage Big Data Frameworks", International Conference on Computer Communications and Networks (ICCCN'17), Vancouver, Canada, 2017. Acceptance Rate: 25%.

28. Qiumin Xu, Manu Awasthi, Krishna T. Malladi, Janki Bhimani, Jingpei Yang, and Murali Annavaram. "Performance analysis of containerized applications on local and remote storage" International Conference on Massive Storage Systems and Technology (MSST'17), Santa Clara, CA, 2017.

29. Janki Bhimani, Jingpei Yang, Zhengyu Yang, Ningfang Mi, Qiumin Xu, Manu Awasthi, Rajinikanth Pandurangan, and Vijay Balakrishnan, "Understanding Performance of I/O Intensive Containerized Applications for NVMe SSDs", IEEE International Performance Computing and Communications Conference (IPCCC'16), Las Vegas, NV, 2016. Acceptance Rate: 25.50%.

30. Zhengyu Yang, Jianzhe Tai, Janki Bhimani, Jiayin Wang, Ningfang Mi, and Bo Sheng, "GREM: Dynamic SSD Resource Allocation in Virtualized Storage Systems with Heterogeneous VMs", IEEE International Performance Computing and Communications Conference (IPCCC'16), Las Vegas, NV, 2016. Acceptance Rate: 25.50%.

Other Peer Reviewed Conference and Workshop Publications
Acceptance rates provided when known

31. Manoj P. Saha*, Omkar Desai, Bryan S. Kim, Janki Bhimani. "Leveraging Keys In Key-Value SSD for Production Workloads" The International ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC'23), Orlando, FL, 2023. (Short Paper)

32. Adnan Maruf*, Daniel Carlson*, Ashikee Ghosh*, Manoj Saha*, Janki Bhimani, Raju Rangaswami. "Allocation Policies Matter for Hybrid Memory Systems" The International ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC'23), Orlando, FL, 2023. (Short Paper)

33. Manoj P. Saha*, Bryan S. Kim, Haryadi S. Gunawi, Janki Bhimani. "RHIK - Re-configurable Hash-based Indexing for KVSSD" The International ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC'23), Orlando, FL, 2023. (Short Paper)

34. Mahsa Bayati, Janki Bhimani, Ronald Lee, Ningfang Mi. "Exploring Benefits of NVMe SSDs for BigData Processing in Enterprise Data Centers" International Conference on Big Data Computing and Communication (BIGCOM'19), Qingdao, China, 2019.

35. Janki Bhimani, Jingpei Yang, Zhengyu Yang, Ningfang Mi, NHV Krishna Giri, Rajinikanth Pandurangan, Changho Choi, and Vijay Balakrishnan. "Enhancing SSDs with multi-stream: What? why? how?" IEEE International Performance Computing and Communications Conference (IPCCC'17), San Diego, CA, 2017. (Short Paper)

36. Janki Bhimani, Zhengyu Yang, Miriam Leeser, and Ningfang Mi, "Accelerating Big Data

Applications Using Lightweight Virtualization Framework on Enterprise Cloud", IEEE High Performance Extreme Computing Conference (HPEC'17), Waltham, MA, 2017.

37. Qiumin Xu, Manu Awasthi, Krishna T. Malladi, Janki Bhimani, Jingpei Yang, Murali Annavaram, "Docker Characterization on High Performance SSDs", IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS'17), Santa Rosa, CA, 2017. (Short Paper)

38. Liu Chao, Janki Bhimani, and Miriam Leeser, "Using High Level GPU Tasks to Explore Memory and Communications Options on Heterogeneous Platforms" ACM Workshop on Software Engineering Methods for Parallel and High Performance Applications (SEM4HPC), Washington, D.C., 2017.

39. Liu Chao, Janki Bhimani, and Miriam Leeser, "Exploring Memory Options for Data Transfer on Heterogeneous Platforms", The International ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC'17), Washington, D.C., 2017. (Short Paper)

40. Janki Bhimani, Miriam Leeser, and Ningfang Mi, "Performance Prediction Techniques for Scalable Large Data Processing in Distributed MPI Systems", IEEE International Performance Computing and Communications Conference (IPCCC'16), Las Vegas, NV, 2016. Acceptance Rate: 12%. (Short Paper)

41. Janki Bhimani, Miriam Leeser, and Ningfang Mi, "Design Space Exploration of GPU Accelerated Cluster Systems for Optimal Data Transfer Using PCIe Bus", IEEE High Performance Extreme Computing Conference (HPEC'16), Waltham, MA, 2016.

42. Janki Bhimani, Miriam Leeser, and Ningfang Mi, "Accelerating K-Means Clustering with Parallel Implementations and GPU Computing", IEEE High Performance Extreme Computing Conference (HPEC'15), Waltham, MA, 2015.

43. Janki Bhimani, Miriam Leeser and Ningfang Mi, "Predicting the Performance of Machine Learning Algorithms running on Heterogeneous Computing Platforms" Women in Machine Learning Workshop (WiML'14), Montréal, Canada, 2014. (Short Paper)

44. Baiyu Chen, Zhengyu Yang, Siyu Huang, Xianzhi Du, Zhiwei Cui, Janki Bhimani, Xin Xie, and Ningfang Mi, "Cyber-Physical System Enabled Nearby Traffic Flow Modelling for Autonomous Vehicles", IEEE International Performance Computing and Communications Conference, Special Session on Cyber Physical Systems: Security, Computing, and Performance (IPCCC CPS'17), San Diego, CA, 2017.

45. Xianfei Xia, Hongru Xiao, Zhengyu Yang, Xin Xie, and Janki Bhimani, Pelletization Characteristics of the Hydrothermal Pretreated Rice Straw with Added Binders. Arabian Journal for Science and Engineering 43, no. 9 (2018): 4811-4820.

Books N/A
Chapters in Books N/A
Government Reports or Monographs N/A
Book Reviews N/A

PRESENTED PAPERS, AND LECTURES

1. Guest Speaker: A Comprehensive Approach to Memory and Storage Systems Optimization, NSF AI Institute, Online, February 28, 2024.
2. Guest Speaker: Picking Research as Career, Women in CS (WiCS) Student Chapter, Miami, FL, April 17, 2023.
3. Guest Speaker: Research Towards Data Storage and Management, Presentation Request for Flit-Path Scholars, Miami, FL, February 11, 2022.
4. Invited Speaker: Emerging Technologies Moving Forward, Entrepreneurs' Organization (EO), Miami, FL, February 10, 2022.
5. Guest Lecture: Towards Designing Intelligent Storage Devices, IBM Research, Almaden, San Jose, CA, May 12, 2021.
6. Guest Lecture: Challenges of the Evolving Memory and Storage Technologies, Memory Solutions Lab, Samsung, San Jose, CA, October 23, 2020.
7. Guest Speaker: Ph.D. in Computer Science – from the lens of a Girl who likes pink, FIU Women in Cybersecurity (WiCys) Student Chapter, Miami, FL, October 22, 2020.
8. Guest Lecture: New Techniques for Data Management in Evolving Storage Technologies, Florida International University, Miami, FL, November 22, 2019.
9. Guest Lecture: New Storage Technologies for Big Data Processing on Cloud and Datacenter Infrastructures, Colorado State University, Fort Collins, CO, March 27, 2019.
10. Paper Presentation Talk: FIOS: Feature Based I/O Stream Identification for Improving Endurance of Multi-Stream SSDs, 2018 IEEE International Conference on Cloud Computing (CLOUD'18), San Francisco, CA, 2018.
11. Paper Presentation Talk: BloomStream: Data Temperature Identification for Flash Based Memory Storage Using Bloom Filters, 2018 IEEE International Conference on Cloud Computing (CLOUD'18), San Francisco, CA, 2018.
12. Paper Presentation Talk: FiM: Performance Prediction Model for Parallel Computation in Iterative Data Processing Applications, IEEE International Conference on Cloud Computing (CLOUD'17), Honolulu, HI, 2017.
13. Paper Presentation Talk: Understanding Performance of I/O Intensive Containerized Applications for NVMe SSDs, IEEE International Performance Computing and Communications Conference (IPCCC'16), Las Vegas, NV, 2016.
14. Paper Presentation Talk: Accelerating Big Data Applications Using Lightweight Virtualization Framework on Enterprise Cloud, IEEE High Performance Extreme Computing Conference (HPEC'17), Waltham, MA, 2017.
15. Paper Presentation Talk: Design Space Exploration of GPU Accelerated Cluster Systems for Optimal Data Transfer Using PCIe Bus, IEEE High Performance Extreme Computing Conference (HPEC'16), Waltham, MA, 2016.
16. Paper Presentation Talk: Accelerating K-Means Clustering with Parallel Implementations and GPU Computing, IEEE High Performance Extreme Computing Conference (HPEC'15), Waltham, MA, 2015.

CREATIVE WORK

1. Led the development and approval of the NSF Broadening Participation in Computing (BPC) Plan for the KFCISE department, providing a standardized NSF approved document for faculty submitting medium and large grants, including CORE and CAREER proposals.
2. Integrated class projects with the NSF Chameleon Cloud to prepare students for utilizing shared cloud computing platforms in their research, enhancing their skills in cloud infrastructure, scalability, and resource management.
3. Conducting a SWOT Analysis as a strategic planning technique has been a key initiative to enhance the overall learning experience of the class.
4. Taking the lead in designing and developing the website for the VOCES project, which can be accessed at https://voces.fiu.edu/, has been a significant contribution.
5. Creating an efficient workflow that covers the entire lifecycle of multimedia posts, including stages such as concept brainstorming, assignment of responsibilities, post design using tools like Canva, feedback collection and review, post enhancements, and final staging, has streamlined the process.
6. Determining the optimal posting frequency and content distribution across various social media platforms, such as LinkedIn, Instagram, and others, with the aim of organically boosting engagement and cultivating student interest in becoming VOCEROs, has been a strategic focus.
7. Creating a pioneering teaching method by incorporating surveys and polls to assess student engagement and pinpoint challenging topics has been a transformative approach. Initially breaking down module topics into more digestible sub-topics, prompting students to assess their difficulty through pre-class polls, and then revisiting the sub-topics that most students found challenging in the following class using real-time feedback, employing personalized teaching techniques to enhance understanding, and facilitating an open forum for students to anonymously ask questions has significantly improved the learning experience.

WORKS IN PROGRESS

Publications

1. Daniar Kurniawan, Maharani A. P. Irawan, Kahfi S. Zulkifli, Ray A. O. Sinurat, Peiran Qin, Janki Bhimani, Sandeep Madireddy, Achmad Imam Kistijantoro, and Haryadi S. Gunawi, Heimdall: Accurate and Efficient I/O Admission Policy with Extensive Machine Learning Pipeline
2. Omkar Desai, Shuyi Pei, Janki Bhimani, Bryan S. Kim, Preparation Meets Opportunity: Enhancing the Data Pipeline for DNN Training with Seneca
3. Manoj Pravakar Saha*, Raju Rangaswami, Yanzhao Wu, and Janki Bhimani, Fragments: Can Fragmented Views of DNN Training State Eliminate Stalls and Achieve Fast Failure Recovery?
4. Christopher Lukas Kverne*, Agoritsa Polyzou, and Janki Bhimani, COURSE-MARKET FIT: Understanding the Relevance of Course Content to Employment Opportunities

5. Ali Bin Omer Qureshi*, Lie Pan, Dheeraj Gandi, Yifan Guo and Janki Bhimani, Optimizing Data Transfers in Edge Computing
6. Ali Bin Omer Qureshi*, Lie Pan, Dheeraj Gandi, Yifan Guo and Janki Bhimani, Data Spilling Reduction in PrestoDB
7. Manoj Pravakar Saha*, Bryan Kim, and Janki Bhimani, Optimizing In-Storage Indexing
8. Omkar Desai, Daniel Carlson*, Janki Bhimani, Bryan S. Kim, Conch: Caching System for Concurrent DNN Training
9. Pratik Poudel*, Jason Liu, Janki Bhimani, Distributed Workload Characterization Optimizer
10. Manoj Pravakar Saha*, Bryan Kim, and Janki Bhimani, DeePaM: Distributed Deep-Learning Page Cache Management for Disaggregated Memory System
11. Manoj Pravakar Saha*, Raju Rangaswami, Yanzhao Wu, and Janki Bhimani, MiPiCheck: Mixed Pipeline Checkpointing
12. Manoj Pravakar Saha*, Ashikee Ghosh*, Raju Rangaswami, Yanzhao Wu, and Janki Bhimani, LATTICE: Looking Beyond File I/O-based DNN Checkpointing
13. Omkar Desai, Adnan Maruf*, Janki Bhimani, Bryan S. Kim, Modeling the space-time trade-off for the DSI pipeline in ML training.
14. Adnan Maruf*, Ashikee Ghosh*, Janki Bhimani, and Raju Rangaswami, RUMINANT– Adaptive Tiering for Hybrid Memory Systems.
15. Daniel Carlson*, Adnan Maruf*, Ashikee Ghosh*, Janki Bhimani, and Raju Rangaswami, Understanding Hybrid Memory Allocations.
16. Adnan Maruf*, Daniel Carlson*, Janki Bhimani, Persistent Memory To Better Manage File-backed Pages of Gaming Workloads.
17. Adnan Maruf*, Dwaraka Prasath Mohen Babu*, Christopher Meadows*, Ningfang Mi, Bo Sheng, and Janki Bhimani, Data Structure For Low-Overhead Stream Identification.
18. Manoj Pravakar Saha*, Bryan Kim, and Janki Bhimani, Flash Isolation Without Instrumentation Overhead.
19. Manoj Pravakar Saha*, Omkar Desai, Bryan Kim, and Janki Bhimani, Multi-Tenant Key Value Device Indexing.
20. Manoj Pravakar Saha*, Aris Duani Rojas*, and Janki Bhimani, Parallel Data Access Within Key Value Storage Devices.

Proposals Submitted For Review and Under Preparation

[3 PI + 2 co-PI]

1. Towards Designing Resilient High Performing Storage Devices, under preparation, PI.
2. NSF AI Institute on Neuro-Symbolic AI, under preparation.
3. CAHSI-Google Institutional Research Program (IRP): Optimizing Data Workflows in ML, PI, Oct 2024 - Sep 2025, $100,000.

4. Samsung GRO: New Techniques for Managing Accelerator Compute and CXL Memory to Improve Performance and Scalability of AI Inference, PI, Oct 2024 - Sep 2026, $299,852, PI team: Ningfang Mi, Northeastern University.

5. TensorHeap: Cross-Stack Memory Management for Machine Learning, Co-PI.

FUNDED RESEARCH GRANTS

[10 PI + 3 co-PI/SI = $6,092,218; Total PI funds = $2,992,232; My share of PI funds to FIU = $1,972,303; Co-PI/SI funds to FIU = $95,750.79]

1. **2024 - 2028 NSF Core Medium (PI)**
   "CSR: Medium: DISCO: Disciplined Data Science Framework for Storage I/O Management"
   PI team: Haryadi S. Gunawi, University of Chicago and Sandeep R. Madireddy, Argonne National Laboratory
   Total Value: $1,200,000 (Direct+Indirect) My share: $475,000 (37.5%)
   Start date: Oct 1, 2024 Expiration date: Sep 30, 2028
   Project ID: 800019285

2. **2024-2029 NSF CAREER (Only PI)**
   "CAREER-2338457 - Towards Efficient In-storage Indexing"
   Total Value: $615,528 (Direct+Indirect) My share: $615,528 (100%)
   Start date: Jul 1, 2024 Expiration date: Jun 30, 2029
   Project ID: 800018670

3. **2024-2026 NSF REU Supplement (Only PI)**
   "CSR-2406069 - REU: Learning and Management in Tiered Memory Systems"
   Total Value: $16,000 (Direct+Indirect) My share: $16,000 (100%)
   Start date: Jan 1, 2024 Expiration date: Dec 31, 2024
   Project ID: 800020019

4. **2023-2026 NSF CISE Core (Only PI)**
   "CSR-2323100 NSF Core: CSR: Small: Learning and Management in Tiered Memory Systems"
   Total Value: $514,704 (Direct+Indirect) My share: $514,704 (100%)
   Start date: Oct 1, 2023 Expiration date: Sep 30, 2026
   Project ID: 800018181

5. **2023-2024 Samsung Global Research Outreach (GRO) Award (PI)**
   "Leveraging Disaggregated Servers for Large Scale AI Training Acceleration"
   Co-PI: Bryan Kim, Syracuse University
   Total Value: $50,000 (Direct+Indirect) My share: $25,000 (50%)
   Start date: Sep 1, 2023 Expiration date: Feb 29, 2024

6. **2022-2027 NSF HSI (SI)**
   "HRD-2225201 - HSI Institutional Transformation Project Voces (Voices for Organizing Change in Educational Systems)"
   PI team: Yesim Darici, Stephen Secules, Rocio Benabentos, Laird Kramer, Jaroslava Miksovska, Monica Cardella, FIU
   Total Value: $2,999,986 (Direct+Indirect) My share: $69,340 (2.3%)

Start date: Sep 15, 2022 Expiration date: Aug 31, 2027

7. **2022-2023 Samsung Memory Solutions Lab (MSL) Research Award (PI)**
   "Leveraging Disaggregated Servers for Large Scale AI Training Acceleration"
   Co-PI: Bryan Kim, Syracuse University
   Total Value: $50,000 (Direct+Indirect) My share: $25,000 (50%)
   Start date: Mar 1, 2023 Expiration date: Aug 31, 2023

8. **2021 Samsung Semiconductor Inc. Equipment Grant (Only PI)**
   "Parallel Data Access with Key-Value SSDs"
   Total Value: $10,000 (Direct+Indirect) My share: $10,000 (100%)
   Start date: Oct 1, 2021 Expiration date: Jun 30, 2022

9. **2021-2022 NSF REU Supplement (Only PI)**
   "CNS-2122987 - REU: New Techniques for I/O Behavior Modeling and Persistent Storage Device Configuration"
   Total Value: $16,000 (Direct+Indirect) My share: $16,000 (100%)
   Start date: May 1, 2021 Expiration date: Apr 30, 2022
   Project ID: 800014726

10. **2020-2023 NSF CISE Core (Lead PI)**
    "CNS-2008324 - Small: New Techniques for I/O Behavior Modeling and Persistent Storage Device Configuration"
    Co-PI: Ningfang Mi, Northeastern University
    Total Value: $500,000 (Direct+Indirect) My share: $255,071 (51%)
    Start date: May 1, 2020 Expiration date: Apr 30, 2023
    Project ID: 800012359

11. **2020-2022 Cyber Florida (Co-PI)**
    "RumorHunt: A Next-Generation Online Scalable Streaming System"
    PI team: Liting Hu, FIU and Zhishan Guo, University of Central Florida
    Total Value: $75,000 (Direct+Indirect) My share: $21,410.79 (28%)
    Start date: Aug 1, 2020 Expiration date: May 30, 2022
    Project ID: 800012574

12. **2019-2020 FIU Faculty Grantsmanship Development Program (Co-PI)**
    "Design, Development and Testing of Distributed Computing Framework for globally co-ordinated data submission and accessibility of Mass Spectrometry Data"
    PI team: Fahad Saeed, Alex Afanasyev, Hadi Amini, FIU
    Total Value: $25,000 (Direct+Indirect) My share: $5,000 (20%)
    Start date: Nov 1, 2019 Expiration date: May 30, 2020

13. **2019 Samsung Semiconductor Inc. Equipment Grant (Only PI)**
    "Exploring Vulnerabilities of Key-Value SSDs"
    Total Value: $20,000 (Direct+Indirect) My share: $20,000 (100%)
    Start date: Oct 1, 2019 Expiration date: Sep 30, 2021

PROPOSALS SUBMITTED BUT NOT FUNDED

1. Pre-Application for ASCR-RENEW (DE-FOA-0002942): Establishing a Sustainable Pathway for Hispanic Students in AI and High-Performance and Scientific Computing Careers at Florida International University (FIU) and Sandia National Laboratories (SNL), Co-PI, PI team: Jason Liu, Raju Rangaswami, Cuong Nguyen, Wenqian Dong, Yanzhao Wu, FIU, Ron Oldfield, Jay Lofstead, Andrew Younge, Patricia Gharagozloo, Sandia National Laboratories (SNL).
2. NSF Core: Collaborative Research: CSR: Medium: TensorHeap: Cross-Stack Memory Management for Machine Learning, Co-PI, Aug 2023 - Jul 2027, $546,523, PI team: Raju Rangaswami, Jason Liu, FIU, Ming Zhao, Jia Zou, Arizona State University, and Wujie Wen, Lehigh University.
3. NSF CISE Core Medium: LISSA: Learning in the Storage Stack, PI, Jul 2022 - Jun 2026, $1,200,000, PI team: Haryadi S. Gunawi, University of Chicago and Sandeep R. Madireddy, Argonne National Laboratory.
4. NSF CAREER: Ameliorate In-storage Indexing, Single PI, Jan 2023 - Dec 2028, $599,789
5. DOE CAREER: Techniques to Leverage Emerging Persistent Memories to Accelerate Parallel Data Accesses, Aug 2022 - Jul 2027, $750,000
6. NSF CISE: CNS Core: Small: Towards an Adaptive, Multi-Indexed, and Distributed Key-Value Based Flash Storage, PI, Aug 2022 - Jul 2025, $600,000, PI team: Bryan Kim, Syracuse University.
7. NSF PPoSS large: PPoSS: LARGE: TensorHeap: Cross-Stack Memory Management for Machine Learning, Co-PI, Aug 2022 - Jul 2027, $2,011,614, PI team: Raju Rangaswami, Jason Liu, FIU, Ming Zhao, Jia Zou, Arizona State University, and Wujie Wen, Lehigh University.
8. NSF STC: Science and Technology Center for Decentralized Autonomous Organizations, Key Personnel, Jan 2023 - Dec 2028, $30,000,000, PI team: Yesim Darici, Kemal Akkaya, Hebin Li, Raju Rangaswami, Selcuk Uluagac, Jason Liu, Sukumar Ganapati, Aslihan Akkaya, Laird Kramer, FIU, Ismail Guvenc, North Carolina State University, Ming Zhao, Arizona State University, Shengwang Du, University of Texas at Dallas, Yufei Ding, University of California at Santa Barbara, and Michael Titze, Sandia National Labs.
9. NSF Collaborative Research: PPoSS: Planning: Cross-Stack Memory Management for Machine Learning, Co-PI, Aug 2021 - Jul 2023, $110,000, PI team: Raju Rangaswami, Jason Liu, FIU, Ming Zhao, Jia Zou, Arizona State University, and Wujie Wen, Lehigh University.
10. NSF INCLUDES Alliance: Tomorrow's Women in STEM Today (TWIST), Co-PI, Aug 2021 - Jul 2026, $9,257,973, PI team: Yesim Darici, Jessy Abouarab, Mireya Mayor, FIU.
11. NSF CAREER: Leveraging Persistent Key-Value SSDs, Single PI, Jan 2021 - Dec 2026, $542,600
12. NSF Distributed Infrastructure for Making Mass Spectrometry Data Findable and Accessible, Co-PI, Aug 2021 - Sep 2024, $803,269, PI team: Fahad Saeed and Hadi Amini, FIU.
13. NSF NSF INCLUDES: Planning Grant FIU TWIST, Co-PI, Aug 2020 - Jul 2022, $99,998, PI team: Yesim Darici, Jessy Abouarab, Mireya Mayor, FIU.

14. NSF CIBR: Distributed Infrastructure for Big Mass Spectrometry Data, Co-PI, Oct 2020 - Sep 2023, $1,048,558, PI team: Fahad Saeed and Hadi Amini, FIU.

15. NSF Collaborative Research: PPoSS: Planning: Leveraging Persistent Memory for Trustworthy ML, Co-PI, Aug 2020 - Jul 2022, $146,262, PI team: Raju Rangaswami, FIU, Ming Zhao, Jia Zou, Arizona State University, and Wujie Wen, Lehigh University.

16. Facebook Faculty Research Award for Distributed Systems Research: Distributed Systems for Deep-Learning with Heterogeneous Persistent Storage, Single PI, Aug 2020 - Jul 2022, $100,000

17. Facebook Faculty Research Award for Systems for Machine Learning: System Memory and Storage Management for Deep Learning, Single PI, Aug 2020 - Jul 2022, $100,000

18. Microsoft Faculty Award: Efficient Resource Management for Distributed Deep-Learning with Flash-Based Persistent Storage, Single PI, Aug 2020 - Jul 2022, $200,000

19. FIU Faculty Grantsmanship Development Program: Visualizing Women's Health in Miami-Dade County, Co-PI, Jan 2019 - Dec 2020, $25,000, PI team: Yesim Darici, Jessy Abouarab.

20. FIU Faculty Grantsmanship Development Program: Evaluating Effective Pipeline Strategies for Women in STEM Success Using GIS: What works and what doesn't work in FL Schools, Co-PI, Jan 2020 - Dec 2020, $25,000, PI team: Yesim Darici, Jessy Abouarab.

21. Bill & Melinda Gates Foundation: Re-Examining the Patterns of and Motivations for Traditional Contraception Method Use in India and Sub-Saharan Africa: A Mixed-Method Approach, Key Personnel, Aug 2020 - Jul 2025, $1,977,500, PI team: Yesim Darici, Jessy Abouarab, Haiying Long, Sarah Stumbar, Jessica Meadows, Stephany Alvarez-Ventura, FIU and Rahman Tauhidur, Arizona State University.

22. NSF CRII: CSR: System Support for Evolving Flash-Based Persistent Storage to Accelerate Parallel Applications, Single PI, May 2020 - April 2022, $174,915.99

PATENT DISCLOSURES, APPLICATIONS, AND AWARDS

(Content in blue color are items since arriving at FIU.)

Daniel Carlson*, Adnan Maruf*, Raju Rangaswami, and Janki Bhimani, inventors; "Techniques to Dynamically Allocate Pages within CXL Memory Systems", Application.

2. Manoj Pravakar Saha*, Yanzhao Wu, Raju Rangaswami, and Janki Bhimani, inventors; "Methods to Efficiently Checkpoint Deep-Learning Model on Persistent Memories", Application.

3. Manoj Pravakar Saha*, Janki Bhimani, inventors; "Flexible and Efficient Data Management Techniques Within Key Value Storage", US 17/340,573.

4. Adnan Maruf*, Ashikee Ghosh*, Raju Rangaswami, and Janki Bhimani, inventors; "ML based Tiered Memory", US 17/344,449.

5. Janki Bhimani, Jingpei Yang, Changho Choi, inventors; Samsung Electronics Co Ltd, assignee. "Parallel key value based multi-thread machine learning exploiting KV-SSDs" US 16/528,492.

6. Janki Bhimani, Rajinikanth Pandurangan, Changho Choi, Vijay Balakrishnan, inventors; Samsung Electronics Co Ltd, assignee. "System and method for identifying hot data and stream in a solid-state drive" US 15/895797.
7. Janki Bhimani, Rajinikanth Pandurangan, Vijay Balakrishnan, Changho Choi, inventors; Samsung Electronics Co Ltd, assignee. "Methods and systems for testing storage devices via a representative I/O generator" United States patent application US 15/853419.
8. Janki Bhimani, Anand Subramanian, Vijay Balakrishnan, and Jingpei Yang, inventors; Samsung Electronics Co Ltd, assignee. "Container workload scheduler and methods of scheduling container workloads" United States patent application US15/820856.
9. Janki Bhimani, Jingpei Yang, Changho Choi, Jianjian Huo, inventors; Samsung Electronics Co Ltd, assignee. "Smart I/O stream detection based on multiple attributes" United States patent application US 15/344,422.
10. Janki Bhimani, Hingkwan Huen, Jingpei Yang, Manu Awasthi, Vijay Balakrishnan, Jason Martineau, inventors; Samsung Electronics Co Ltd, assignee. "Intelligent controller for containerized applications" United States patent application US 15/379,327.

PROFESSIONAL ACHIEVEMENTS, HONORS, AWARDS, AND FELLOWSHIPS

(Content in blue color are items since arriving at FIU.)

1. 2024 - Received NSF CAREER Award.
2. 2023 - Received FIU Top Scholar Award in the category of the Research, Creative Activities, and Award-Winning Publications.
3. 2023 Quality Matters Certification for Online Course - CIS5346 Storage System
4. 2022 - Received Outstanding Applied Research Award by Knight Foundation School of Computing and Information Science (KFSCIS), FIU.
5. 2022 The Best Paper Award at 14th ACM Workshop on Hot Topics in Storage and Filesystem (HotStorage'22).
6. 2022 The Best Paper Award Nomination at Design, Automation and Test in Europe Conference. The European Event for Electronic System Design and Test (DATE'22)
7. 2022 Quality Matters Certification for Online Course - COP3530 Data Structures
8. 2021 Awarded Certificate of Completion from ASEE DELTA Junior Faculty Institute
9. 2021 Grace Hopper Celebration of Women in Computing (GHC) Faculty Scholarship
10. 2021 Recognized as Distinguished Reviewer Award, 13th ACM Workshop on Hot Topics in Storage and File Systems (HotStorage '21)
11. 2020 Received Certification for Hybrid Course - COP3530 Data Structures
12. 2020 Grace Hopper Celebration of Women in Computing (GHC) Faculty Scholarship
13. 2019 Outstanding Graduate Research Award, Northeastern University

14. 2018 The Best Paper Award at 11th IEEE International Conference on Cloud Computing (IEEE CLOUD)
15. 2017 The Best Paper Award at 36th IEEE International Performance Computing and Communications Conference (IPCCC)
16. 2014 Double Husky Scholarship, Northeastern University
17. 2012 The Best Budget Robot Award at 3rd Lunabotics International Mining Competition, NASA, Kennedy Space Center, FL
18. 2012 The Best Working Model Award in Junk Yard Wars at Conscientia, Indian Institute of Space Science Technology (IIST)
19. 2012 The Best Paper Award at Aagama National Level Technical Paper Contest
20. 2011 The Best Working Model in Junk Yard Wars during Technozion at National Institute Of Technology (NIT)
21. 2011 The Outstanding Debate Performance Award by Institute of Engineers India (IEI)
22. 2010 The Impromptu Speaker Award by International Society for Technology in Education (ISTE)
23. 2010 - 2013 University Merit Scholarship, GITAM University

ACADEMIC SUPERVISION

Doctoral Students (Thesis Advisees)

[11 Ph.D.Thesis Advisees (1 graduated + 1 proposal defended + 3 candidate + 3 discontinued + 2 hired applicant starting next semester), and 10 Ph.D. Committee Member (4 graduated + 3 proposal defended + 3 qualifying passed)]

Graduated Ph.D. Students

1. Adnan Maruf, Ph.D. student
   Dissertation topic: Improving the performance and reliability of systems with emerging memory and storage devices
   Graduated in Apr. 2023
   Tenure Track Assistant Professor, Missouri State University

Current Ph.D. Students (Thesis Advisees)

2. Manoj Pravakar Saha, Ph.D. student
   Dissertation topic: Enhancing the in-storage indexing and ML checkpointing
   Dissertation plan: Spring 2025

3. Alexis Gonzales, Ph.D. student
   Dissertation topic: Fault-Tolerant Caching Service
   Dissertation plan: Fall 2027

4. Ali Bin Omer Qureshi, Ph.D. student
   Dissertation topic: Optimizing Data Spilling in Distributed Query Engine and Memory Management3w
   Dissertation plan: Fall 2029

5. Mayur Akewar, Ph.D. student
   Dissertation topic: Towards Designing New Techniques for AI Based Data Indexing and Neuro-Symbolic AI
   Dissertation plan: Spring 2030

6. Gabriel Rovira, Ph.D. student
   Dissertation topic: Improving Data Distribution Pipeline in Heterogeneous Memory System with CXL Devices
   Dissertation plan: Fall 2030

   (2 new Ph.D. students hired starting next semester)

Discontinued Ph.D. Students

7. Daniel Carlson, Ph.D. student
   Dissertation topic: Improving the Performance of Dis-aggregated Memory Systems
   Duration advised by me: Fall 2020 - Spring 2024

8. Ashikee Ghosh, Ph.D. student
   Dissertation topic: Designing Libraries for Efficient ML Checkpointing
   Duration co-advised by me: Spring 2020 - Fall 2023
   Software Development Engineer, Amazon

9. Maimuna Begum Kali, Ph.D. student
   Dissertation topic: Optimizing Parallel Operations within BigData Processing Platforms
   Duration advised by me: Fall 2019 - Fall 2021
   Ph.D. student, School of Universal Computing, Construction, and Engineering Education (SUCCEED)

Ph.D. Committee Member

10. Rafael Trujillo
11. Pratik Poudel
12. Pedro Espina
13. Sumesh Kumar
14. Ziyang Jiao (Syracuse University)
15. Omkar Desai (Syracuse University)

16. Liana Valdes Rodriguez (Graduated)
17. Oswaldo Artiles (Graduated)
18. Muhammad Haseeb (Graduated)
19. Danlin Jia (Northeastern University) (Graduated)

M.S. Students (Thesis/Project Advisees)

[5 M.S. Students (3 graduated + 2 current)]

Graduated M.S. Students

20. Dwaraka Prasath Mohen Babu, ESpace Networks
21. Ashikee Ghosh, Amazon
22. Ali Bin Omer Qureshi

Current M.S. Students

23. Shashidhar Reddy Chavula
24. Muttahar Khalid

Research Experience for Undergrad (REU) Students

Graduated Undergrad Students

25. Gabriel Zavala, Dell
26. Daniel Carlson
27. Roberto Martinez, Co-Founder & CPO of GammaSwap Labs
28. Christopher Meadows
29. Aris Duani Rojas, Ph.D. Student
30. Sashri Brahmakshatriya
31. Natalia Valencia, Ph.D. Student
32. Kevin Nordman

Current Undergrad Students

33. Federico Monteverdi
34. Christopher Lukas Kverne
35. Amanda Di Perna

Independent Study

[1 M.S. + 3 Undergraduate]

1. Daniel Carlson, Summer 2022, Topic: Hybrid Memory Management.
2. Dwaraka Prasath Mohen Babu, Spring 2022, Topic: Data Structures to Identify Data Streams.
3. Sashri Brahmakshatriya, Summer 2021, Topic: Analyze Reliability of SSDs.
4. Christopher Meadows, Summer 2021, Topic: Design Data Stream Identifier.

Capstone Mentoring

1. Daniel Carlson
2. Patrick Perez
3. Oscar Barbosa
4. Nazmul Huq
5. Luis Acosta
6. Ettore Mottola
7. Eitan Flor
8. Bryan Camacho

TEACHING ACTIVITIES

Storage Systems (CIS 5346): The most recent offering of this course was in Fall 2023, and it underwent evaluation by students through the Student Perceptions of Teaching Survey (SPOTs), yielding a commendable mean score of 4.64/5. Notable comments from students include, *"The most successful aspect of this course is the detailed information in the lectures about the objectives and executions of each module and great instructor-student interactions."* Another student mentioned, *"The professor's availability and commitment towards every student was commendable."* Additionally, a student highlighted, *"This was the best online course that I have taken so far, expertly crafted, and the pacing of this course was good."* Lastly, a student appreciated the practicality, stating, *"The way we could relate the course to real-life scenarios will definitely help me never forget what I learned. Course material and discussions are thought-provoking and interesting."*

Data Structures (COP 3530): COP 3530 earns its "effort-intensive" label due to students' substantial growth expectations post-course and a high enrollment rate. In Fall 2023, my SPOTs rating was 4.19/5. Students praised COP 3530 for being "*well-structured,*" with one noting, "*The most successful aspect is probably having discussions for each Module.*" Another student commended the "*Professor's teaching proficiency is 5+ stars rating, she presents lectures in a clear, understandable way with many opportunities in each module to get clarification.*" The "video lectures" were highlighted for their "*easy-to-understand quality.*" Overall, the course was recognized for its "*balance, pacing, and real-world applicability, making it a transformative and*

great learning experience." The peer evaluation of this course by my colleague Dr. Masoud Milani stated that "*my observations, as well as students' opinions, confirm that Dr. Bhimani is an outstanding teacher who has clearly mastered the art of teaching.*"

Graduate Courses Taught

Overall SPOTS rating: 4.26/5

1. CIS 5346: Storage Systems, Fall 2024, Fully-online modality, SPOTs- Number of student: , Response rate: , Overall average: .
2. CIS 7980: Ph.D. Dissertation, Summer 2024, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
3. CIS 5346: Storage Systems, Spring 2024, Fully-online modality, SPOTs- Number of student: 34, Response rate: 90, Overall average: 4.53/5.
4. CIS 7980: Ph.D. Dissertation, Spring 2024, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
5. CIS 5346: Storage Systems, Fall 2023, Fully-online modality, SPOTs- Number of student: 15, Response rate: 92.9, Overall average: 4.64/5.
6. CIS 7910: Graduate Research, Fall 2023, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
7. CIS 7980: Ph.D. Dissertation, Fall 2023, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
8. CIS 7980: Ph.D. Dissertation, Summer 2023, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
9. CIS 5346: Storage Systems, Spring 2023, Fully-online modality, SPOTs- Number of student: 27, Response rate: 100%, Overall average: 3.8/5.
10. CIS 7980: Ph.D. Dissertation, Spring 2023, Hybrid modality, SPOTs- Number of student: 2, Response rate: NA, Overall average: NA.
11. CIS 7980: Ph.D. Dissertation, Fall 2022, Hybrid modality, SPOTs- Number of student: 2, Response rate: NA, Overall average: NA.
12. CIS 7980: Ph.D. Dissertation, Summer 2022, Hybrid modality, SPOTs- Number of student: 2, Response rate: NA, Overall average: NA.
13. CIS 5346: Storage Systems, Spring 2022, Fully-online modality, SPOTs- Number of student: 27, Response rate: 100%, Overall average: 4.11/5.
14. CIS 5900: Independent Study, Spring 2022, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
15. CIS 7980: Ph.D. Dissertation, Spring 2022, Hybrid modality, SPOTs- Number of student: 2, Response rate: NA, Overall average: NA.
16. CIS 7980: Ph.D. Dissertation, Fall 2021, Hybrid modality, SPOTs- Number of student: 2, Response rate: NA, Overall average: NA.
17. CIS 7980: Ph.D. Dissertation, Summer 2021, Hybrid modality, SPOTs- Number of student: 2, Response rate: NA, Overall average: NA.

18. CIS 7910: Graduate Research, Spring 2021, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
19. CIS 7980: Ph.D. Dissertation, Fall 2021, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
20. CIS 7910: Graduate Research, Fall 2020, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
21. CIS 7980: Ph.D. Dissertation, Fall 2020, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
22. CIS 7910: Graduate Research, Summer 2020, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
23. CIS 7910: Graduate Research, Spring 2020, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
24. CIS 7980: Ph.D. Dissertation, Spring 2020, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
25. CIS 5346: Storage Systems, Fall 2019, In-person modality, SPOTs- Number of student: 12, Response rate: 75%, Overall average: 4.48/5.

Undergraduate Courses Taught

Overall SPOTS rating: 4.00/5

1. COP 3530: Data Structures, Fully-online modality, Fall 2023, SPOTs- Number of student: 48, Response rate: 83.3, Overall average: 4.19/5.
2. COP 3530: Data Structures, Fully-online modality, Spring 2023, SPOTs- Number of student: 60, Response rate: 85.4%, Overall average: 3.64/5.
3. COP 3530: Data Structures, Fully-online modality, Fall 2022, SPOTs- Number of student: 47, Response rate: 85.4%, Overall average: 3.93/5.
4. CIS 3900 Independent Study, Summer 2022, Hybrid modality, SPOTs- Number of student: 1, Response rate: NA, Overall average: NA.
5. COP 3530: Data Structures, Fully-online modality, Spring 2022, SPOTs- Number of student: 39, Response rate: 69.2%, Overall average: 3.85/5.
6. COP 3530: Data Structures, Fall 2021, Fully-online modality, SPOTs- Number of student: 47, Response rate: 80.9%, Overall average: 4.2/5.
7. CIS 3900 Independent Study, Summer 2021, Hybrid modality, SPOTs- Number of student: 2, Response rate: NA, Overall average: NA.
8. COP 3530: Data Structures, Spring 2021, Fully-online modality, SPOTs- Number of student: 51, Response rate: 72.5%, Overall average: 4.43/5.
9. COP 3530: Data Structures, Fall 2020, Certified hybrid modality, SPOTs- Number of student: 39, Response rate: 84.6%, Overall average: 2.74/5.
10. COP 3530: Data Structures, Spring 2020, Hybrid modality, SPOTs- Number of student: 18, Response rate: 94.4%, Overall average: 4.13/5.

11. EECE 2560: Fundamentals of Engineering Algorithms (Northeastern University), Fall 2017, In-person modality, SPOTs- Number of student: 12, Response rate: 80%, Overall average: 4.8/5.

OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

FIU Internal Service

1. 2023-2024: KFSCIS Awards Committee
2. 2023-2024: CEC Faculty Council Representative
3. 2023-2024: KFSCIS Seminar Series Coordinator
4. 2023-2024: CEC Faculty representative at United Nations Women and Girls in Science day annual celebrations
5. 2023-2024: Graduate Council
6. 2022-2023: CEC Faculty Council Representative
7. 2022-2023: KFSCIS Seminar Series Coordinator
8. 2022-2023: Subject area coordinator: BS-CS for Programming: COP-2210, COP-3337, COP-3530, COP-4338, COP-4226, COP-4520
9. 2022-2023: KFSCIS Diversity, Equity & Inclusion (DEI) Committee
10. 2022-2023: CEC Faculty representative at United Nations Women and Girls in Science day annual celebrations
11. 2022-2023: Graduate Council
12. 2021-2022: KFSCIS Tenure Track Faculty Hiring Committee
13. 2021-2022: Subject area coordinator: BS-CS for Programming: COP-2210, COP-3337, COP-3530, COP-4338, COP-4226, COP-4520
14. 2021-2022: Capstone or Senior Projects Supervisor
15. 2021-2022: KFSCIS Diversity Advocate for Faculty Hiring
16. 2021-2022: CEC Faculty representative at United Nations Women and Girls in Science day annual celebrations
17. 2021-2022: Graduate Council
18. 2020-2021: KFSCIS Tenure Track Faculty Hiring Committee
19. 2020-2021: Subject area coordinator: BS-CS for Programming: COP-2210, COP-3337, COP-3530, COP-4338, COP-4226, COP-4520
20. 2020-2021: Capstone or Senior Projects Supervisor
21. 2020-2021: KFSCIS Diversity Advocate for Faculty Hiring
22. 2020-2021: KFSCIS Faculty representative at United Nations Women and Girls in Science day annual celebrations
23. 2020-2021: Graduate Council

24. 2020-2021: KFSCIS Graduate Committee
25. 2019-2020: CEC Faculty representative at United Nations Women and Girls in Science day annual celebrations
26. 2019-2020: Graduate Council
27. 2019-2020: KFSCIS Graduate Committee

FIU Microcredential

Remote Teach Ready Badge Summer 2020

Professional Activities

1. Associate Editor for ACM Transactions on Architecture and Code Optimization (ACM TACO).
2. TPC for USENIX Conference on File and Storage Technologies (USENIX FAST) 2025 with heavy review workload of 15-20 papers.
3. Panelist on a Panel to discuss ML for Storage at HotStorage'24.
4. General Chair for ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) 2024 leading the overall operations of the workshop.
5. TPC for USENIX Conference on File and Storage Technologies (USENIX FAST) 2024 with heavy review workload of 15-20 papers.
6. Program Committee Track chair for the track Performance Monitoring, Modeling, Analysis, and Benchmarking (in Cluster, Cloud and Internet Computing) at 22nd IEEE International Symposium on Cluster, Cloud and Internet Computing (CCGrid) 2024.
7. Poster chair for the 33nd ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC) 2024.
8. Poster chair for the 32nd ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC) 2023.
9. Publicity chair and TPC for ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) 2023.
10. TPC and Session chair for ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) 2022 leading a session on ZNS and SSDs, 2022.
11. TPC for IEEE International Conference on CLOUD Computing, 2022
12. TPC for IEEE International Conference on Distributed Computing Systems (ICDCS), Machine Learning on or for Distributed Systems, 2022
13. TPC for IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGrid), Performance Modeling, Scheduling and Analysis Track, 2022
14. NSF Panelist for Office of Advanced Cyberinfrastructure (CISE/OAC) program
15. NSF Panelist for Cyberinfrastructure for Sustained Scientific Innovation (CSSI) program
16. TPC and Session chair for USENIX Conference on File and Storage Technologies (USENIX FAST) 2021, leading a session on The SSD Revolution Is Not Over.

17. TPC and Session chair for ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) 2021 leading a session on Flash Storage, 2021.
18. TPC and Session chair for IEEE International Symposium on Workload Characterization (IISWC) 2020, leading a session on System Architecture and Applications
19. TPC for IEEE International Parallel & Distributed Processing Symposium (IPDPS), 2020
20. TPC for IEEE International Performance Computing and Communications Conference (IPCCC), 2019, 2020

Service as Peer Reviewing

Conferences:

1. IEEE International Conference on Distributed Computing Systems (ICDCS)
2. IEEE/ACM International Symposium on Cluster, Cloud, and Internet Computing (CCGRID)
3. ACM Workshop on Hot Topics in Storage and File Systems (HotStorage)
4. International Symposium on High-Performance Parallel and Distributed Computing (HPDC)
5. USENIX Conference on File and Storage Technologies (FAST)
6. IEEE International Parallel & Distributed Processing Symposium (IPDPS)
7. IEEE International Conference on Cloud Computing (IEEE CLOUD)
8. IEEE High Performance Extreme Computing Conference (IEEE HPEC)
9. IEEE International Conference on Green Computing and Communications (GreenCom)
10. International Conference on Massive Storage Systems and Technology (MSST)
11. IEEE International Conference on Big Data (BigData)
12. International Conference on Networking, Architecture, and Storage (NAS)
13. International Conference on Parallel and Distributed Systems (ICPADS)
14. Workshop on Interactions of NVM/Flash with Operating Systems and Workloads (INFLOW)
15. International Conference on Performance Engineering (ICPE)
16. ACM/SIGDA International Symposium on Field-Programmable Gate Arrays (FPGA)
17. IEEE/IFIP International Conference on Dependable Systems and Networks (DNS)
18. Big Data and Cloud Performance Workshop at INFOCOM (DCPerf)
19. International Conference on Autonomic Computing (ICAC)
20. International Conference on Computer Aided Design (ICCAD)
21. International Conference on Cloud Computing Technologies and Applications (CloudTech)
22. Field-Programmable Custom Computing Machines (FCCM)
23. International Conference on Computer. Communication and Networks (ICCCN)

24. IEEE International Performance Computing and Communications Conference (IPCCC)
25. IEEE/ACM International Conference on Utility and Cloud Computing (UCC)

Journals:

1. ACM Transactions on Embedded Computing Systems (TECS), ACM Journal
2. IEEE Transactions on Cloud Computing (TCC), IEEE Journal
3. ACM Transaction on Storage (TOS), ACM Journal
4. IEEE Transactions on Services Computing (TSC), IEEE Journal
5. Simulation Modelling Practice and Theory (SIMPAT), Elsevier Journal
6. Computers, MDPI Journal
7. Future Generation Computer Systems (FGCS), Elsevier Journal
8. IEEE Transactions on Computers (TC), IEEE Journal
9. ACM Transactions on Modeling and Performance Evaluation of Computing Systems (TOMPECS), ACM Journal

Society Memberships

1. Member (2014-present) Association for Computing Machinery (ACM)
2. Member (2014-present) Institute of the Electrical and Electronics Engineers (IEEE)
3. Member (2014-present) The Advanced Computing Systems Association (USENIX)

Community Services

1. Volunteering Affiliated Faculty, Center for Women and Gender Studies (CWGS), Florida International University, Miami FL, USA

PERSONAL TRAITS

Highly motivated and eager to learn new things.

Strong leadership skills and innovative approaches.

Ability to work as an individual as well as in group.