

## Kaoutar El Maghraoui

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CONTACT INFORMATION IBM Thomas J. Research Center  
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RESEARCH INTERESTS AI Hardware-software co-design, Cloud computing, Operating Systems, High-performance Computing, Distributed Systems, Data Analytics, Artificial Intelligence, and Neural Architectural Search.

EDUCATION **Rensselaer Polytechnic Institute**, Troy, New York

**Ph.D. in Computer Science** awarded May 2007. GPA: 4.0/4.0

- Dissertation Title: *A Framework for the Dynamic Reconfiguration of Scientific Applications in Grid Environments*
- Advisor: Dr. Carlos Varela

**Al Akhawayn University**, Ifrane, Morocco

M.S., Computer Networks, May 2001. GPA: 3.98/4.0

- Dissertation Title: *Towards Building H.323-Aware Wireless Systems: H.323 Control Loops and Applications Adaptation to Wireless Link Conditions*
- Advisor: Dr. Tajje-eddine Rachidi

B.S., Software Engineering, December 1999. GPA: 4.0/4.0

- *Summa Cum Laude*

WORK EXPERIENCE

**Principal Research Scientist, IBM Research AI Platforms, AI Hardware Center, Yorktown Heights, New York, 09/24 - present**

In my current role at IBM Research, I manage and lead a cross-functional and talented team dedicated to advancing AI model enablement and pioneering hardware-software co-design for IBM's next-generation AI accelerator. We focus on developing innovations at the intersection of AI algorithms and systems to drive unprecedented efficiency and performance in AI applications. This role combines leadership and technical depth, as we collaborate across diverse disciplines and geographies to unlock new potential in AI infrastructure and technology.

**Adjunct Professor, Columbia University, Fall 22 - present**

Teaching graduate-level courses High-Performance Machine Learning (HPML) and Scalable Large Language Models (SLLM). Topics covered include: ML/DL and PyTorch fundamentals; PyTorch performance engineering and profiling; performance optimization in PyTorch; parallel performance modeling; CUDA programming basics; ML math libraries (e.g., cuDNN); deep learning architectures (CNNs, RNNs/LSTMs, attention, transformers); distributed ML fundamentals (MPI, torch.distributed); distributed PyTorch algorithms (data/model parallelism, ring all-reduce); parallel data loading; quantization and model compression; KV caching and efficient LLM inference; serving and runtime systems (e.g., vLLM); and hardware-software co-design and co-optimization for scalable training and inference.

**Science Advisory Board Member, Emerging Artificial Intelligence Systems Initiative, University at Albany, 2024 – present** Serve as a science advisor to the Emerging Artificial Intelligence Systems initiative at the University at Albany, a collaboration with IBM Research focused on advancing trustworthy, efficient, and

interdisciplinary AI systems. Provide strategic and technical guidance on next-generation AI architectures, hardware–software co-design, and sustainable computing. Contribute to shaping the research agenda, fostering academia-industry collaboration, and mentoring faculty and students in AI systems innovation.

**Track Lead – AI Hardware-Software Co-Design (RPI-IBM Future of Computing Collaboration (FCRC) , Fall 24 - present**

Track Lead – AI Hardware-Software Co-Design (RPI-IBM Future of Computing Collaboration) Leads a joint research track with RPI under the multi-year RPI-IBM Future of Computing partnership. Focused on energy-efficient AI through hardware–software co-design, including model quantization, compression, distributed training, and accelerator-aware optimization for cloud and edge deployment.

**Principal Research Scientist, AI Platforms and Runtimes, AI Hardware Center, IBM Research AI, Yorktown Heights, New York, 05/19 - Present**

Principal investigator of IBM Research’s AI hardware Center Technology Testbed. I lead a team that built a powerful and versatile infrastructure to support IBM AI Hardware Center accelerators. The AI hardware center is a global research hub to develop next-generation AI hardware and further accelerate the development of AI-optimized hardware innovations. The AI technology testbed hosts research and development, prototyping, testing, and simulation activities for new AI cores specially designed for training and inference for advanced AI models, and demonstrating Center innovations in real-world applications. This effort has had measurable impact in the form of payments to the AI Hardware Center and has also led to significant media coverage. I serve in the operational committee of the IBM/RPI supercomputer. I lead the development of the end-user experience for the software ecosystem for IBM’s next generation hardware digital and analog accelerators.

Technical lead in the AI runtimes and platforms organization working on operationalizing AI workloads at scale.

**Research Scientist, AI Engineering, IBM Research AI, Yorktown Heights, New York, 01/18 - 04/19**

Focusing on innovation at the intersection of systems and machine learning. Design and building of scalable, elastic and resilient cloud-native platform for deep learning.

**Research Scientist and GTO 2018 co-lead, IBM Research, Yorktown Heights, New York, 12/16 - 12/17**

A one year assignment at the IBM Research strategy team co-leading IBM’s Global Technology Outlook. Contributed to defining IBM’s vision for the future of IT across global labs and business units focusing on IBM’s AI leadership.

**Research Staff Member, Scalable Systems Department, IBM T.J. Watson Research Center, Yorktown Heights, New York, 9/07 - 12/16**

Technical lead and key contributor to the Watson4TSS project, a Watson technology based cognitive search system to assist call centers in resolving customer services requests. Leading research efforts focusing on applications of cognitive technologies (e.g.. IBM Watson Technology) to systems problem diagnosis and resolution.

Prior research focused on several aspects of the AIX operating system such as performance optimization, multi-thread and multi-core scheduling, Flash SSD storage, OS crash diagnosis and recovery, and interactions with IBM’s POWER system architecture.

**Research Assistant, Worldwide Computing Lab, Rensselaer Polytechnic Institute, Troy, New York, 9/02 - 5/07**

Researched techniques to devise grid middleware services that enable distributed applications to adapt to the constantly changing behavior of dynamic environments. Reconfiguration is supported at the entity-level of applications for more flexible adaptation and is based on peer-to-peer protocols to achieve scalable decisions. I also

contributed to the design and implementation of the Salsa programming language. This research involved:

- Design and implementation of reconfiguration strategies, application-level and resource-level profiling services. All have been implemented as part of the Internet Operating System (IOS) middleware.
- Design and implementation of the PCM library (Process Checkpointing and Migration), a library that extends iterative MPI applications with checkpointing, process migration, and split and merge capabilities. The PCM library has been integrated with IOS to enable automatic middleware-triggered reconfiguration for MPI applications in dynamic and heterogeneous environments.

I also contributed to the design and implementation of SALSA, a programming language based on the actor model of computation. SALSA follows actor semantics and enables the easy development of concurrent and transparently distributed applications.

**Research Summer Intern, IBM T.J. Watson Research Center, The Internet Infrastructure and Computing Utilities group, Hawthorne, NY, USA, Summers of 2004 and 2005**

Designed and implemented a prototype for the automatic generation of provisioning actions (workflows) in a data center. The approach relied on using the partial-order planning algorithm (POP) to infer the partial order of provisioning operations and their inputs to deploy a given application in a data center. Several heuristics were introduced to improve the performance of POP in the provisioning domain. The prototype has been integrated with IBM's Rainforest project and was capable of generating deployment plans that can be executed using IBM's Tivoli Intelligent Orchestrator provisioning manager.

**Computer Science Lecturer, Al Akhawayn University, School of Science and Engineering, Ifrane, Morocco, 01/01-06/02**

Taught Computer Networks, Assembly Language Programming, Programming with C, and Pascal Programming. Duties included teaching, preparing curriculum, class notes, homework, and project assignments, and advising students.

**Graduate Research Assistant, Al Akhawayn University, School of Science and Engineering, Ifrane, Morocco, 01/00-06/01**

Designed and implemented an algorithm to optimize H.323 control loops for multimedia applications adaptation under wireless Link conditions. Sponsored by Lucent Technologies and Al Akhawayn University.

**Teaching Assistant, Al Akhawayn University, School of Science and Engineering, Ifrane, Morocco, 01/97-06/99**

Served as a teaching assistant for the following courses: Physics, Electrical Circuits, Assembly Language, Programming classes, and Data Structures. Duties included holding office hours, grading, and leading weekly lab sessions.

REFEREED  
JOURNAL  
PUBLICATIONS

1. Hadjer Benmeziane, Corey Lammie, Irem Boybat, Malte J. Rasch, Manuel Le Gallo, Athanasios Vasilopoulos, HsinYu Tsai, Geoffrey William Burr, Vijay Narayanan, **Kaoutar El Maghraoui**, Abu Sebastian, *Supernetwork-based efficient mapping of deep learning applications to mixed-precision hardware using model adaptation*, *Nature Communications*, 2026.
2. Zhaoxian Wu, Quan Xiao, Tayfun Gokmen, HsinYu Tsai, **Kaoutar El Maghraoui**, Tianyi Chen, *On the Convergence Theory of Pipeline Gradient-Based Analog In-Memory Training*, *IEEE Journal on Selected Areas in Information Theory (JSAIT)*, 7: 279-289, 2026.
3. Yunhua Fang, Rui Xie, Asad Ul Haq, Linsen Ma, **Kaoutar El Maghraoui**, Naigang Wang, Meng Wang, Liu Liu, Tong Zhang, *Accelerating LLM Inference*

via *Dynamic KV Cache Placement in Heterogeneous Memory System*, accepted to IEEE Computer Architecture Letters (CAL), September 2025.

4. Olga Krestinskaya, Mohammed Fouda, Hadjer Benmeziiane, **Kaoutar El Maghraoui**, Abu Sebastian, Wei Lu, Mario Lanza, Hai Li, Fadi Kurdahi, Suhaib Fahmy, Ahmed Eltawil, and Khaled Nabil Salama: *Neural architecture search for in-memory computing-based deep learning accelerators*, Nature Reviews Electrical Engineering Journal, 2024.
5. Hadjer Benmeziiane, **Kaoutar El Maghraoui**, Hamza Ouarnoughi, Smaïl Niar: *Grassroots Operator Search for Model Edge Adaptation using Mathematical Search Space*. Future Generation Computer Systems, March 2024.
6. Manuel Le Gallo, Corey Lammie, Julian Buechel, Fabio Carta, Omobayode Fagbohunbe, Charles Mackin, Hsinyu Tsai, Vijay Narayanan, Abu Sebastian, **Kaoutar El Maghraoui**, Malte J Rasch, Using the IBM Analog In-Memory Hardware Acceleration Kit for Neural Network Training and Inference, APL Machine Learning Journal, 2023.
7. Hadjer Benmeziiane, Hamza Ouarnoughi, **Kaoutar El Maghraoui**, Smaïl Niar: *Multi-objective Hardware-aware Neural Architecture Search with Pareto Rank-preserving Surrogate Models*. ACM Transactions on Architecture and Code Optimization (TACO). 20(2): 29:1-29:21 (2023)
8. Yu Deng, **Kaoutar El Maghraoui**, Thomas D Griffin, Vikas Agarwal, Srikanth G Tamilselvam, Rahul D Sharnagat, Tabari H Alexander, Nicolas E. Gomez, Christopher Cramer, Alan Bivens, Divyesh Jadav, Zaman M Valli-Hasham, Kevin Wahlmeier. *Advanced Search System for IT Support Services*. IBM Journal of Research and Development, Volume 61, Issue 1, 2017
9. Joefon Jann, R. Sarma Burugula, Ching-Farn E. Wu, **Kaoutar El Maghraoui**: *Towards an immortal operating system in virtual environments*. Parallel Computing 40(9): 526-535 (2014)
10. **Kaoutar El Maghraoui**, Travis J. Desell, Boleslaw K. Szymanski, Carlos A. Varela. *Malleable iterative MPI applications*. Concurr. Comput. Pract. Exp. 21(3): 393-413 (2009)
11. Travis J. Desell, **Kaoutar El Maghraoui**, Carlos A. Varela. *Malleable applications for scalable high performance computing*. Cluster Computing 10(3): 323-337 (2007)
12. **Kaoutar El Maghraoui**, Travis J. Desell, Boleslaw K. Szymanski, Carlos A. Varela: *The Internet Operating System: Middleware for Adaptive Distributed Computing*. IJHPCA 20(4): 467-480 (2006)

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1. Mohammed Nowaz Rabbani Chowdhury, **Kaoutar El Maghraoui**, Hsinyu Tsai, Naigang Wang, Geoffrey W. Burr, Liu Liu, Meng Wang, *Efficient Quantization of Mixture-of-Experts with Theoretical Generalization Guarantees*, ICLR 2026 (28% acceptance rate).
2. Zehao Fan, Yunzhen Liu, Garrett Gagnon, Zhenyu Liu, Yayue Hou, Hadjer Benmeziiane, **Kaoutar El Maghraoui**, Liu Liu, *STARC: Selective Token Access with Remapping and Clustering for Efficient LLM Decoding on PIM Systems*, International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS) 2026.

3. Julian Büchel, Iason Chalas, Giovanni Acampa, An Chen, Omobayode Fagbohunbe, Hsinyu Tsai, **Kaoutar El Maghraoui**, Manuel Le Gallo, Abbas Rahimi, Abu Sebastian, *Analog Foundation Models*, Annual Conference on Neural Information Processing Systems (NeurIPS) 2025.
4. Yayue Hou, Zhenyu Liu, Garrett Gagnon, Hsinyu Tsai, **Kaoutar El Maghraoui**, Geoffrey W. Burr, *SAGE: Saliency-Aware Grouping for Efficient Mapping of LLMs on Analog Compute-in-Memory*, 2025 IEEE/ACM International Conference On Computer Aided Design (ICCAD)
5. Ismail Erbas, Ferhat Demikiran, Karthik Swaminathan, Naigang Wang, Navid Nizam, Vikas Pandey, Nanxue Yuan, Saif Ragab, Luis Chavez, **Kaoutar El Maghraoui**, Xavier Intes, *Advancing Fluorescence Light Detection and Ranging in Scattering Media with a Physics-Guided Mixture-of-Experts and Evidential Critics*, Annual Conference on Neural Information Processing Systems (NeurIPS) 2025.
6. Lorson Blair, Jeremy Buhler, **Kaoutar El Maghraoui**, Christopher Carothers, Naigang Wang and Jordan Murray, *Scaled FP32 and Quantization-aware Training of PatchTST for Efficient Time Series Forecasting*, THE 11TH MINING AND LEARNING FROM TIME SERIES WORKSHOP, KDD 2025.
7. H Tsai, H Benmeziene, I Boybat, J Büchel, P Narayanan, M Le Gallo, S Jain, A Vasilopoulos, W Simon, K Hosokawa, M Ishii, Y Kohda, A Chen, C Mackin, **K El Maghraoui**, A Okazaki, AM Friz, J Luquin, A Sebastian, V Narayanan, GW Burr, *Analog AI Accelerators for Transformer-based Language Models: Hardware, Workload, and Power Performance*, 2025 IEEE International Memory Workshop (IMW)
8. Yayue Hou, Hsinyu Tsai, **Kaoutar El Maghraoui**, Tayfun Gokmen, Geoffrey W. Burr and Liu Liu, *NORA: Noise-Optimized Rescaling of LLMs on Analog Compute-in-Memory Accelerators*, Date 2025.
9. GW Burr, H Tsai, I Boybat, WA Simon, J Büchel, A Vasilopoulos, P Narayanan, A Fasoli, K Hosokawa, M Le Gallo, M Ishii, Y Kohda, A Okazaki, A Chen, C Mackin, E Ferro, **K El Maghraoui**, H Benmeziene, T Philicelli, C Lammie, AM Friz, J Luquin, S Jain, A Sebastian, V Narayanan, *Analog-AI Hardware Accelerators for Low-Latency Transformer-Based Language Models*, 2025 IEEE Custom Integrated Circuits Conference (CICC)
10. Julian Büchel, William Andrew Simon, Corey Lammie, Giovanni Acampa, **Kaoutar El Maghraoui**, Manuel Le Gallo, Abu Sebastian, *AIHWKIT-Lightning: A Scalable HW-Aware Training Toolkit for Analog In-Memory Computing*, NeurIPS 2024 Workshop Machine Learning with new Compute Paradigms.
11. Hadjer Benmeziene, Corey Lammie, Athanasios Vasilopoulos, Irem Boybat, Manuel Le Gallo, Hsinyu Tsai, Kaoutar El Maghraoui, Abu Sebastian, *Multi-Task Neural Network Mapping onto Analog-Digital Heterogeneous Accelerators*, NeurIPS 2024 Workshop Machine Learning with new Compute Paradigms.
12. **Kaoutar El Maghraoui**, Kim Tran, Kurtis Ruby, Borja Godoy, Jordan Murray, Manuel Le Gallo-Bourdeau, Todd Deshane, Pablo Gonzalez, Diego Moreda, Hadjer Benmeziene, Corey Liam Lammie, Julian Büchel, Malte J. Rasch, Abu Sebastian, Vijay Narayanan, *Analog AI as a Service: A Cloud Platform for In-Memory Computing*, SSE 2024.
13. Hadjer Benmeziene, **Kaoutar El Maghraoui**, *Are Large Language Models Good Neural Architecture Generators for Edge?*, EDGE 2024.

14. Arnold Caleb Asimwe, William Das, Hadjer Benmeziane, **Kaoutar El Maghraoui**, *EfficientMedSAM: Accelerating Medical Image Segmentation via Neural Architecture Search and Knowledge Distillation*. EDGE 2024.
15. Corey Lammie, Manuel Le Gallo, Malte Rasch, **Kaoutar El Maghraoui**, *How to Model the Training and Inference of Analog-Based In-Memory Computing (AIMC) Systems*, Half Day Tutorial at ISCAS 2024.
16. Hadjer Benmeziane, Imane Hamzaoui, Zayneb Cherif, **Kaoutar El Maghraoui**, *Medical Neural Architecture Search: Survey and Taxonomy*, IJCAI 2024.
17. Mohammed Nowaz Rabbani Chowdhury, Meng Wang, **Kaoutar El Maghraoui**, Naigang Wang, Pin-Yu Chen, Christopher Carothers, *A Provably Effective Method for Pruning Experts in Fine-tuned Sparse Mixture-of-Experts*, accepted at ICML 2024.
18. Imane Hamzaoui, Hadjer Benmeziane, Zayneb Cherif, **Kaoutar El Maghraoui**, *Analog In-Memory Computing with Uncertainty Quantification for Efficient Edge-based Medical Imaging Segmentation*, Tiny Papers @ ICLR 2024.
19. Lotfi Abdelkrim Mecharbat, Hadjer Benmeziane, Hamza Ouarnoughi, Smail Niar, **Kaoutar El Maghraoui**, *DFUSENAS: A Diffusion-Based Neural Architecture Search*, 2024 International Joint Conference on Neural Networks (IJCNN 2024).
20. Geoffrey Burr, Sidney Tsai, William Simon, Irem Boybat-Kara, Stefano Ambrogio, Chung-En Ho, Ze-Wei Liou, Malte Rasch, Julian Büchel, Pritish Narayanan, Tarl Gordon, Shubham Jain, Ted Levin, Kohji Hosokawa, Manuel Le Gallo, Hunter Smith, Masatoshi Ishii, Y Kohda, An Chen, Charles Mackin, Andrea Fasoli, **Kaoutar El Maghraoui**, Ramachandran Muralidhar, Atsuya Okazaki, Ching-Tzu Chen, Martin Frank, Corey Liam Lammie, A Vasilopoulos, Alexander Friz, Jose Luquin, Sean Teehan, Ishtiaq Ahsan, Abu Sebastian, Vijay Narayanan, *Design of Analog-AI Hardware Accelerators for Transformer-based Language Models*, IEEE International Electron Devices Meeting (IEDM), 12/2023.
21. Hadjer Benmeziane, **Kaoutar El Maghraoui**, Hamza Ouarnoughi, Smail Niar, *Pareto Rank-Preserving Supernetwork for Hardware-aware Neural Architecture Search*, 26th European Conference on Artificial Intelligence ECAI 2023.
22. Brandon Dominique, **Kaoutar El Maghraoui**, David Piorkowski, Lorraine Herger, *FactSheets for Hardware-Aware AI Models: A Case Study of Analog In Memory Computing AI Models*, 2023 IEEE International Conference on Software Services Engineering (SSE), **Best Paper Award**
23. Hadjer Benmeziane, Corey Lammie, Irem Boybat, Malte Rasch, Manuel Le Gallo, Hsinyu Tsai, Ramachandran Muralidhar, Smail Niar, Ouarnoughi Hamza, Vijay Narayanan, Abu Sebastian, **Kaoutar El Maghraoui**, *AnalogNAS: A Neural Network Design Framework for Accurate Inference with Analog In-Memory Computing*, 2023 IEEE International Conference on Edge Computing and Communications (EDGE), **Best Paper Award**
24. Naigang Wang, Chi-Chun Liu, Swagath Venkataramani, Sanchari Sen, Chia-Yu Chen, **Kaoutar El Maghraoui**, Viji Srinivasan, Leland Chang, **Deep Compression of Pre-trained Transformer Models**, Advances in Neural Information Processing Systems (NeurIPS) 2022.
25. Hadjer Benmeziane, Hamza Ouarnoughi, Smail Niar, **Kaoutar El Maghraoui**, *CaW-NAS: Compression Aware Neural Architecture Search*, 25th Euromicro Conference on Digital System Design (DSD), 2022

26. Hadjer Benmeziane, Smail Niar, Hamza Ouarnoughi, **Kaoutar El Maghraoui**, *Pareto Rank Surrogate Model for Hardware-aware Neural Architecture Search*, IEEE ISPASS 2022
27. Hadjer Benmeziane, Hamza Ouarnoughi, **Kaoutar El Maghraoui**, Smail Niar: *Real-time style transfer with efficient vision transformers*. EdgeSys@EuroSys 2022: 31-36
28. Hadjer Benmeziane, Hamza Ouarnoughi, **Kaoutar El Maghraoui**, Smail Niar. *Accelerating Neural Architecture Search with Rank-Preserving Surrogate Models*. 7th International Conference on Arab Women in Computing (ArabWIC 21). **Best paper award**.
29. Hadjer Benmeziane, **Kaoutar El Maghraoui**, Hamza Ouarnoughi, Smail Niar, Martin Wistuba, Naigang Wang. *Hardware-Aware Neural Architecture Search: Survey and Taxonomy*. 30th International Joint Conference on Artificial Intelligence (IJCAI-21)
30. Malte J. Rasch, Diego Moreda, Tayfun Gokmen, Manuel Le Gallo, Fabio Carta, Cindy Goldberg, **Kaoutar El Maghraoui**, Abu Sebastian, Vijay Narayanan. *A Flexible and Fast PyTorch Toolkit for Simulating Training and Inference on Analog Crossbar Arrays*. IEEE International Conference on Artificial Intelligence Circuits and Systems, 2021
31. Lorraine Herger, **Kaoutar El Maghraoui**, I-Hsin Chung, Chekuri Choudary, Kim Tran, Todd Deshane. *Toward an Enterprise-ready Composable Infrastructure as a Service*. IEEE International Conference on Services Computing (SCC 2021)
32. **Kaoutar El Maghraoui**, Lorraine Herger, Chekuri Choudary, Kim Tran, Todd Deshane. *Performance Analysis of Deep Learning Workloads on a Composable System*. 2021 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW)
33. Xiao Sun, Naigang Wang, Chia-Yu Chen, Jiamin Ni, Ankur Agrawal, Xiaodong Cui, Swagath Venkataramani, **Kaoutar El Maghraoui**, Vijayalakshmi Srinivasan, Kailash Gopalakrishnan. *Ultra-Low Precision 4-bit Training of Deep Neural Networks*. Advances in Neural Information Processing Systems (NeurIPS), 2020
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35. Scott Boag, Parijat Dube, **Kaoutar El Maghraoui**, Benjamin Herta, Waldemar Hummer, K. R. Jayaram, Rania Khalaf, Vinod Muthusamy, Michael Kalantar, Archit Verma. *Dependability in a Multi-tenant Multi-framework Deep Learning as-a-Service Platform*. DSN Workshops 2018: 43-46
36. Rongda Zhu, Yu Deng, Soumitra (Ronnie) Sarkar, **Kaoutar El Maghraoui**, Harigovind V Ramasamy, and Alan Bivens. *Towards More Effective Solution Retrieval in IT Support Services Using Systems Log*. ICSOC 2016: 730-744, The 14th International Conference on Service Oriented Computing, 2016
37. Hyeran Jeon, **Kaoutar El Maghraoui**, Gokul B. Kandiraju. *Investigating hybrid SSD FTL schemes for Hadoop workloads*. Conf. Computing Frontiers 2013: 20:1-20:10

38. Gokul B. Kandiraju, **Kaoutar El Maghraoui**. *A flexible OS-based approach for characterizing solid-state disk endurance*. Conf. Computing Frontiers 2012: 223-232
39. Justin R. Funston, **Kaoutar El Maghraoui**, Joefon Jann, Pratap Pattnaik, Alexandra Fedorova. *An SMT-Selection Metric to Improve Multithreaded Applications' Performance*. IPDPS 2012: 1388-1399
40. Joefon Jann, R. Sarma Burugula, Ching-Farn E. Wu, **Kaoutar El Maghraoui**. *An OS-Hypervisor Infrastructure for Automated OS Crash Diagnosis and Recovery in a Virtualized Environment*. SBAC-PAD 2012: 195-202
41. David Daly, Parijat Dube, **Kaoutar El Maghraoui**, Dan E. Poff, Li Zhang. *A Hybrid Approach for Large Cache Performance Studies*. QEST 2011: 47-56
42. **Kaoutar El Maghraoui**, Gokul B. Kandiraju, Joefon Jann, Pratap Pattnaik. *Modeling and simulating flash based solid-state disks for operating systems*. WOSP/SIPEW 2010: 15-26
43. **Kaoutar El Maghraoui**, Travis J. Desell, Boleslaw K. Szymanski, Carlos A. Varela. *Dynamic Malleability in Iterative MPI Applications*. CCGRID 2007: 591-598
44. Wei-Jen Wang, **Kaoutar El Maghraoui**, John Cummings, Jim Napolitano, Boleslaw K. Szymanski, Carlos A. Varela. *A Middleware Framework for Maximum Likelihood Evaluation over Dynamic Grids*. e-Science 2006: 105
45. **Kaoutar El Maghraoui**, Alok Meghranjani, Tamar Eilam, Michael H. Kalantar, Alexander V. Konstantinou. *Model Driven Provisioning: Bridging the Gap Between Declarative Object Models and Procedural Provisioning Tools*. Middleware 2006: 404-423
46. **Kaoutar El Maghraoui**, Boleslaw K. Szymanski, Carlos A. Varela. *An Architecture for Reconfigurable Iterative MPI Applications in Dynamic Environments*. PPAM 2005: 258-271
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48. **Kaoutar El Maghraoui**, Travis J. Desell, Boleslaw K. Szymanski, James D. Teresco, Carlos A. Varela. *Towards a middleware framework for dynamically reconfigurable scientific computing*. High Performance Computing Workshop 2004: 275-301
49. **Kaoutar El Maghraoui**, Joseph E. Flaherty, Boleslaw K. Szymanski, James D. Teresco, Carlos A. Varela. *Adaptive Computation over Dynamic and Heterogeneous Networks*. PPAM 2003: 1083-1090

EDITORSHIP

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2. Rajiv Joshi, Kaoutar El Maghraoui, Arvind Kumar, Matthew Ziegler, 5th IBM IEEE CAS/EDS AI Compute Symposium (AICS'22)
3. Ozcan Ozturk, Sabri Pllana, Smaïl Niar, **Kaoutar El Maghraoui**: Special issue on recent advances in autonomous vehicle solutions in the digital continuum. Computing 104(3): 459-460 (2022)

4. Manar Abu Talib, Laila Benhlima, **Kaoutar El Maghraoui**: ArabWIC 2021: The 7th Annual International Conference on Arab Women in Computing in Conjunction with the 2nd Forum of Women in Research, Sharjah, United Arab Emirates, August 25 - 26, 2021. ACM 2021, ISBN 978-1-4503-8418-6
5. **Kaoutar El Maghraoui**, Dalila Chiadmi, Laila Benhlima, Nariman Ammar: Proceedings of the 6th Annual International Conference on Arab Women in Computing, ArabWIC 2019, Research Track, Rabat, Morocco, March 7-9, 2019. ACM 2019, ISBN 978-1-4503-6089-0
6. Peter Desnoyers, **Kaoutar El Maghraoui**: 4th Workshop on Interactions of NVM/Flash with Operating Systems and Workloads, INFLOW@OSDI 2016, Savannah, GA, USA, November 1, 2016. USENIX Association 2016
7. **Kaoutar El Maghraoui**, Gokul B. Kandiraju: 2nd Workshop on Interactions of NVM/Flash with Operating Systems and Workloads, INFLOW '14, Broomfield, CO, USA, October 5, 2014. USENIX Association
8. **Kaoutar El Maghraoui**, Gokul B. Kandiraju: Proceedings of the 1st Workshop on Interactions of NVM/FLASH with Operating Systems and Workloads, INFLOW 2013, Farmington, Pennsylvania, USA, November 3, 2013. ACM 2013, ISBN 978-1-4503-2462-5

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3. System, Method And Computer Program Product For Instantiating Blocks Of A Solid-state Disk To Include Different Flash Characteristics, September 5, 2022 - United States of America 11435902
4. Generation And Management Of An Artificial Intelligence (ai) Model Documentation Throughout Its Life Cycle, February 28, 2022 - United States of America, 11263188.
5. Software Patch Management Incorporating Sentiment Analysis, August 2, 2021 - United States of America, 11080037
6. System, Method And Computer Program Product For Instantiating Blocks Of A Solid-state Disk To Include Different Flash Characteristics, May 4, 2020 - United States of America, 10642497
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11. Automated Diagnosis Of Software Crashes, August 20, 2018 - United States of America, 10055274
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14. Automated Diagnosis Of Software Crashes, September 5, 2016 - United States of America, 9436540
15. Dynamic Tuning Of Internal Parameters For Solid-state Disk Based On Workload Access Patterns, January 25, 2016 - United States of America, 9244831
16. Dynamic Tuning Of Internal Parameters For Solid-state Disk Based On Workload Access Patterns, August 4, 2015 - United States of America, 9098400
17. Automated Transition To A Recovery Kernel Via Firmware-assisted-dump Flows Providing Automated Operating System Diagnosis And Repair, March 6, 2012 - United States of America, 8132057

PROFESSIONAL  
AWARDS

- 2025 IBM Outstanding Technical Achievement Award, PyTorch, vLLM, and CI/CD Enablement for Spyre delivery to IBM Z and Power.
- ACM Distinguished Speaker. Serving the Term of 2024-2026.
- The IEEE Open-Source Science Award, *The Analog In-Memory Hardware Acceleration Open-Source and Cloud Platform*, Kaoutar El Maghraoui, Malte Rasch et al., 2023 IEEE International Symposium on Open Source Science.
- IEEE Open-Source Science Award, *AnalogNAS: A Flexible and Modular Analog Neural Architecture Search Library*, Hadjer Benmeziiane, Kaoutar El Maghraoui, et al., 2023 IEEE International. Symposium on Open Source Science
- 2023 IBM Outstanding Technical Achievement Award, Analog AI Toolkits and Algorithmic Innovations Analog AI Toolkits and Algorithmic Innovations
- 2022 ACM Distinguished Member. Selected among the top 10% ACM members worldwide for significant achievements in the computing field.
- 2022 IBM Technical Corporate Award. Thirty eight IBM researchers received this distinguished recognition honoring outstanding technical accomplishments that contribute significant business value to IBM and our clients.
- 2021 IEEE Technical Committee on Services Computing (TCSVC) Women in Service Computing Award. This Award recognizes women leaders who have demonstrated long-standing, sustained, and impactful contributions to Service Computing practice and/or research, providing a female role model for young women pursuing a career in Services Computing.
- IBM Honoree for 2021/ Best of IBM, one of the highest recognition given by IBM to its top performers.
- 2021 IBM Outstanding Innovation Award: "AI Hardware Center Testbed: End-to-End Client Enablement and Research Demonstrations on Next-gen AI Hardware"
- Named one of the 10 African Women Role Models by AfChix, a vibrant network of African women in computer science, IT, and related technologies. <http://www.afchix.org/role-models/>
- IBM Manager's Choice Award for demonstrating the practice: Share expertise, May, 2019
- IBM Manager's Choice Award for demonstrating the practice: Restlessly reinvent – our company and ourselves, April, 2019
- IBM Manager's Choice Award for demonstrating the practice: Unite to get it done now, August, 2018
- IBM Manager's Choice Award for demonstrating the practice: Share expertise, May, 2017
- IBM's Outstanding Technical Achievement Award for technical contributions to Cognitive Virtual Technical Assist, 2017
- IBM's Outstanding Technical Achievement Award for key contributions to Watson4TSS, a Watson technology based cognitive search system to assist call centers in resolving customer service requests as well as improving IBM's client experience, 2015

- IBM Manager’s Choice Award for demonstrating the practice: Show Personal Interest, November, 2014
- IBM Manager’s Choice Award for demonstrating the practice: Unite to Get it Done Now, June, 2014
- IBM Research Eminence and Excellence award for leadership in increasing Women presence in science and technology, 2013
- IBM’s Tier II award for contributions to the foundational POWER software technologies and promoting these systems in Africa, 2012

#### ACADEMIC AWARDS

- Best Research Award, Principal Investigator for ”In-memory Compute for Medical Imaging at the Edge”, 4th Forum for Women in Research, University of Sharjah and the University of Khorfakkan, UAE, 2023.
- The Robert McNaughton Prize for best thesis research in Computer Science, Rensselaer Polytechnic Institute, 2007
- NSF scholarship to participate in the Grace Hopper Celebration of Women in Computing conference, October, 2006.
- RPI Computer Science Student Service Award, 2005.
- RPI scholarship to participate in the Grace Hopper Celebration of Women in Computing conference, October 8th, 2004.
- American Association of University Women fellowship for the academic year 02/03
- President List: Al Akhawayn University (10 Semesters)
- First Place: First Arab-African ACM Collegiate Programming Contest, 11/98; Al Akhawayn University
- Highest High School Score, 6/95, Academy of Settlat.

#### PUBLIC TALKS AND PANELS

- Keynote Speaker: The Future of Computing: IBM Research and the Rise of Generative Systems, IBM Tech DACH, Ehningen, Germany, July 9, 2026.
- Keynote Speaker: Efficient LLM Inference: From Cloud to the Edge - Hardware-Software Co-Design in Practice, International Summer School on Generative AI 2026, Rome, Italy, June 2026.
- Keynote Speaker: Agentic AI: From Models to Autonomous Intelligence, Orange Morocco Agentic AI Day - Trust the Future!, Casablanca, Morocco, March 2026.
- ACM Distinguished Speaker Lecture: Workshop on Agentic AI: From Creation to Collaboration - The Next Era of AI, INPT, Rabat, December 8, 2025.
- Keynote Speaker: The Next Wave: Reinventing Intelligence and Compute Architecture, Women In AI Morocco Summit 2025, Friday, December 5, 2025, Technopark, Casablanca, Morocco
- Keynote Speaker: From Generative to Agentic: The Next Era of Computing, Summer School on Multimodal Foundation Models and Generative AI, INPT, Rabat 8 - 12 September, 2025.
- Keynote Speaker: The Future of AI - An IBM Research Perspective. IBM TechXChange, Johannesburg August 12-13, 2025, Cape Town August 14-15, 2025.
- Keynote Panelist: The Future of Quantum Computing — Challenges, Opportunities, Ethics, and How We Can Implement UN Sustainable Goals (SDGs) and QC to Bring About a Better Future for Our Planet and World, NYUAD Hackathon for the Social Good in the Arab World, Abu Dhabi, UAE, April 27, 2025.
- Invited Speaker and Judge, ”Quantum-centric Supercomputing: The Next Frontier”, NYUAD Hackathon for the Social Good in the Arab World, Abu Dhabi, UAE, April 25, 2025.
- ACM Distinguished Speaker Talk, ”Revolutionizing Enterprise AI: The Power and Promise of Foundation Models”, Women in Research Webinar Series, University of Sharjah, UAE, April 23, 2025.
- Keynote speaker, ”Generative AI Transforming the Future of Enterprise AI”, 1st

- Edition of HESTIM&AI Conference, Casablanca, February 2025.
- Panel speaker, "Women in Machine Learning Mentorship: Applying to jobs in the Industry", November 2024, Organized by WiML.
  - Keynote speaker, Unleashing Generative AI: Transforming Marketing, Communication, and the Digital Economy, Africa Digital Summit, Casablanca, October 8-9, 2024
  - Keynote speaker, Women in Services Computing Symposium: Revolutionizing Enterprise AI: The Power and Promise of Foundation Models, IEEE Services, July 7, 2024
  - Keynote speaker, Digital Society Forum in Berkane, Morocco, June 24-26, 2024
  - Semiconductor Research Corporation SRC Industry Speaker: Powering the Future of Efficient AI through Approximate and Analog In-Memory Computing Principles, June 18, 2024
  - Keynote speaker, "Quantum Computing Meets Machine Learning: Unleashing New Frontiers", 2024 NYUAD Hackathon, Abu Dhabi, UAS, April 26, 2024.
  - Keynote speaker, "AI's Evolution : From Symbolic Representations to Generative Intelligence", Women in Tech Conference, April 23-25, 2024.
  - Panel speaker, "Fostering Excellence in AI and ML Research in North Africa: Challenges and Pathways.", NeurIPS 2023 Affinity Workshop for North Africans in ML, December 11, 2023.
  - Keynote speaker, "Scaling Foundation Models: Paving the Future Path for Enterprise AI", The 2023 IEEE International Conference on Advances in Data-Driven Analytics and Intelligent Systems, Marrakech, Morocco, November 25, 2023.
  - Distinguished Speaker Lecture, "AI's Evolution: From Symbolic Representations to Generative Intelligence", HESTIM Engineering and Business School, Casablanca, Morocco, November 13, 2023
  - Invited talk at Université Polytechnique Hauts-de-France, "Accelerating deep learning with approximate computing", August 29, 2023, University in Valenciennes, France
  - Invited talk at Polytechnique Montréal , "Accelerating Deep Learning with Approximate and Analog In-Memory Computing Principals", May 26, 2023, Polytechnique Montréal, Canada
  - Panel speaker, "Towards a National AI Strategy For Sustainable Development", MoroccoAI Conference, December 20, 2022
  - Panel speaker, The International Conference for High Performance Computing, Networking, Storage, and Analysis (SC22), Dallas, USA, "Composable Systems Opportunities and Challenges", November 15, 2022.
  - Invited speaker, Al Akhawayn University Alumni Speaker Series, School of Science and Engineering, Al Akhawayn University, Ifrane, Morocco, "The Quest for Sustainable and Democratized Artificial Intelligence", November 1, 2022.
  - Invited speaker, "An International Dialogue: Female Trailblazers Making Moves to Solve Local Challenges with STEM", Science Summit at United Nations General Assembly (UNGA78), September 28, 2022
  - Accepted talk, Open-Source Toolkit to Power Next Generation Sustainable Analog AI Hardware Acceleration, Grace Hopper Celebration, September 22, 2022
  - Panel speaker, IBM Career Panel, Grove School of Engineering Executive in Residence Program, City College of New York (CUNY), Thursday September 15, 2022
  - Invited speaker, "Platform for Next Generation Analog AI Hardware Acceleration", tinyML On Device Learning Forum, September 1st, 2022
  - Invited speaker, Women in Data Science (WiDS), Paris, "The Quest for Sustainable AI", June 18, 2022.
  - Accepted talk, Women in Tech Global conference, "Powering the Future of Sustainable AI through Specialized AI hardware Accelerators ", May 8, 2022
  - Tutorial speaker, ACM SIGSIM PADS (Principals of Advanced Discrete Simulation), "Introduction To AIHWKIT, A Simulation Platform For Next Generation Analog AI Hardware Acceleration", June 8, 2022.

- Invited talk, Powering the Future of Sustainable AI through Specialized AI hardware Accelerators, Schlumberger Webinar, April 11, 2022
- Invited speaker, CHEOPS Workshop at EuroSys 2022, Workshop on Challenges and Opportunities of Efficient and Performing Storage Systems, "AI Hardware Accelerators and Composable Infrastructure", April 5, 2022.
- keynote speaker, NISS 2022, Envisage Intelligent Systems in 5G/6G-based Interconnected Digital Worlds, "Hardware-Software Co-Design Approaches for Sustainable AI", Mar 30, 2022.
- Invited speaker, "What's next in AI", Launch of Cybersecurity & Data Analytics Research Center, University of Sharjah, UAE, February 9th, 2022
- keynote speaker, MoroccoAI conference, "Powering the Future of AI through Specialized AI Hardware Accelerators", December 23, 2021.
- Panelist, "Innovation and Bridging the Gap Between AI Research and Industry", MoroccoAI conference, December 21, 2021.
- ICSSD 2021 keynote talk, "Accelerating, Optimizing and Automating AI across the Stack", October 29, 2021.
- ACM Middleware 2021 tutorial, "Middleware and Toolkit for Next Generation Analog AI Hardware Acceleration", December 6, 2021.
- Invited Talk. Hardware-aware Automated AI for Efficient Deep Learning across Hybrid Deployments: Current Landscape and Future Directions. Second Forum for Women in Research August 2021, University of Sharjah, UAE
- ICML 2021 Expo talk. IBM Analog AI Hardware Acceleration Kit. Kaoutar El Maghraoui & Malte J Rasch, July 18th, 2021
- Keynote speaker at the 1st edition of the Intercultural Management Conference Series hosted by Hassan II University in Casablanca. April 27, 2021
- Invited Talk at IEEE FastPath workshop. Hardware-aware Automated AI for Efficient Deep Learning across Hybrid Deployments: Current Landscape and Future Directions. Mar 29, 2021.
- IEEE ENSIAS student branch Panel: Moroccan Women in Tech. March 7th, 2021
- Invited talk at Alakhawayn University. KEY RESEARCH TRENDS SHAPING THE FUTURE OF AI. February 26, 2021
- ENSEM Engineering Invited Talk. Where we are heading next with AI. January 29th, 2021.
- Keynote speaker, "Harnessing the Power of AI in E-commerce: Challenges and Opportunities", the 2020 Forum on E-Commerce and Cybersecurity, FEC 2020, November 23, 2020.
- Invited talk, "Raising awareness about inclusivity at the workplace", Women in High Performance Computing Workshop at SC2020, 11, Nov, 2020.
- Panel speaker, "The voices of Moms in Tech during COVID-19," Afchix Webinar, 22 July 2020.
- Panel speaker, "I'd blush if I could: How can we ensure an inclusive digital transformation process", Rakameya Conference, 29 June 2020.
- Keynote speaker, "Recent Advances in AI: Implications on the City of the Future", 2nd International Workshop on Innovative Smart City Technologies, Casablanca, Morocco, June 19, 2020. [Talk Link](#)
- Invited speaker, "AI and the Race Against COVID-19", Webinar on Artificial Intelligence and Machine Learning Application on Covid'19, Hassan II university in Casablanca, May 22, 2020. [Talk Link](#).
- "IBM Accelerated Discovery for COVID-19", Invited Talk, 9th Annual NYUAD Hackathon for Social Good in the Arab World, April 16th, 2020.
- Invited Talk, "Now and the Future of Accelerating AI, a view from IBM Research", Women in Data Science Conference, New York City, March 23, 2020. [Talk Link](#) (1:54:50)
- Panel: "The Golden Age for Computer Architecture: Challenges and Pitfalls", FOCA

- 2019, 4th workshop on the future of computing architectures, October 23, 2019, IBM T.J. Watson Research Center, NY.
- "Challenges of adopting, operationalizing and scaling AI in the real world", Rensselaer Polytechnic Institute Research Seminar, October 23rd, 2019, RPI, NY.
  - "Beyond the AI Hype A Discussion with Tom Taulli", Panel Discussion on the Practical Applications of AI, Oct 9th, 2019, LMHQ, New York City.
  - "Operationalizing Artificial intelligence with Trust and Transparency", AI Akhawayn University Business School Seminar, July 10, 2019
  - "Now and the Future of Accelerating AI, a view from IBM Research", IBM Technical University, Dubai, 15 ? 18 April 2019 — Dubai, UAE
  - "Operationalizing and Scaling AI", Women in Data Science and Quantum Computing, New York City, March 25, 2019
  - "Engineering Artificial Intelligence for the Future", Featured Technical Research Keynote, ArabWIC 6th International Conference on Women in Computing, Rabat, Morocco, March 8, 2019
  - "AI Engineering: Foundations to Operationalize and Scale AI", Women In Data Science (WiDS) Keynote, Rabat, Morocco, March 9, 2019
  - "Trust and Transparency in AI", Invited Talk, ENSIAS (National School of Computer Science), Rabat, Morocco, March 6th, 2019
  - "Research Innovations at the Intersection of AI and Systems", Invited Talk, Rensselaer Polytechnic Institute, October 15th, 2018
  - "IBM AI Hardware Research Enables ML/DL Collaboration using POWER9 GPU Nodes, IBM Cloud Private and Watson Studio Local", Super Computing, November 11-16, 2018, Dallas, TX
  - "IBM AI Hardware Research Enables ML/DL Collaboration using POWER9 GPU Nodes, IBM Cloud Private and Watson Studio Local", 2018 IBM Systems Technical University, October 18th, 2018, Hollywood, FL
  - Invited Talk: "AI is Everywhere: Headlights into the Future and Existing Challenges", Women in Data Science Conference, WiDS Riyadh, King Abdulaziz City for Science and Technology *KACST*, March 5th, 2018
  - Keynote: "AI is Everywhere: Headlights into the Future and Existing Challenges", Tech Saudiya, Princess Nourah bint Abdulrahman University *PNU*, March 7th, 2018
  - "Why and How to Prepare for Hackathons", Grace Hopper Celebration of Women in Computing Conference, October, 2017
  - "IBM Research's Cutting-edge Innovations transforming Industries and Society", 5th Annual International conference on Arab Women in Computing, August, 2017
  - "Blockchain: What's All The Fuss About?", Technology Workshop, 5th Annual International conference on Arab Women in Computing, August, 2017
  - "Women in Technology Panel", ClojureBridge MIT Programming Workshop, October, 2016
  - Keynote: "A Journey of Research Innovations and Lesson Learned" 2015 NYUAD Women in Computing in the Arab World Conference, Abu Dhabi, UAE.
  - "Latest Trends and Technical Challenges in Big Data, Analytics and the Cloud: Perspectives from Industry and Academia" Panel, NYCWiC 2015, New York Celebration of Women in Computing, Syracuse, NY, 2015.
  - "Why Women in Technology should patent their ideas" Panel, Grace Hopper Celebration of Women in Computing Conference, 2014.
  - "Latest Trends and Technical Challenges of Big Data Analytic" Panel, Grace Hopper Celebration of Women in Computing Conference, 2014.
  - "Big Data, Analytics and Cloud Computing: the New Paradigm". Panel, New York Celebration of Women in Computing (NYCWIC), 2013, Albany, NY.
  - "What if Social Networks Can Empower Women in Science, Technology, and Beyond?" Panel, Grace Hopper Celebration of Women in Computing, 2011, Portland, Oregon.
  - "Minority Women: Diversity and Mentoring in the Research Environment" Panel,

- SWE 2011, The Annual Conference of Women Engineers, Chicago, Illinois.
- "10 Things I Wish I Knew Before I Started My Career" Panel, Grace Hopper Celebration of Women in Computing, 2010, Atlanta, Georgia.
- "Internship Programs Showcase - Success Stories (How to Make the Best of Internship Programs, a 360 View)" Panel, Grace Hopper Celebration of Women in Computing, 2008, Keystone, Colorado.
- The Internet Operating System: Middleware for Adaptive Distributed Computing. Center for Pervasive Computing and Networking, RPI, Troy, NY, December 6th, 2006.
- A Framework for the Dynamic Reconfiguration of Scientific Applications in Grid Environments. Ph.D. Forum, Grace Hopper Celebration of Women in Computing (GHC06), San Diego, CA, October 2006.
- An Architecture for Reconfiguring Iterative MPI Applications in Dynamic and Heterogeneous Environments. SIAM Conference on Parallel Processing for Scientific Computing (PP06), San Francisco, CA, February 2006.

CONFERENCE  
ORGANIZATION

- Program co-chair, PyTorch Day, India, February 2026
- Program co-chair, IEEE SSE 2025
- Symposium chair, IEEE EDGE 2024
- General co-chair, IPDPS Scalable Deep Learning Workshop 2023 (ScaDL 2023)
- General chair, IEEE International Symposium on Women in Services Computing, 2023
- Judge for the MIT Technology Review Innovators under 35, MENA. Press release.
- Program co-chair, AI Computer Symposium 2022, 4th IBM IEEE CAS/EDS AI Compute Symposium (AICS'22)
- AI Track co-chair, Grace Hopper Conference, 2022
- General chair, IEEE International Symposium on Women in Services Computing, 2022
- Program co-chair, IPDPS Scalable Deep Learning Workshop 2022 (ScaDL 2022)
- Guest Editor, Computing Journal, Special Issue on "Recent Advances in Autonomous Vehicle Solutions in the Digital Continuum". 2021
- Program chair, IBM CAS/EDS AI Compute Symposium, 2021
- Program chair, IEEE International Symposium on Women in Services Computing, 2021
- General chair, ArabWIC 7th International Conference of Arab Women in Computing, 2021
- Track Co-Chair, Grace Hopper Conference, Emerging Technologies Track 2021
- Program chair, IEEE International Symposium on Women in Services Computing, 2020
- Grace Hopper Conference, Emerging Technologies Track Co-chair, 2020
- Grace Hopper Conference, Emerging Technologies Track Co-chair, 2019
- Invited Talks Chair, Women in HPC Workshop, Super Computing Conference, 2019
- General Chair, ArabWIC'19 conference
- Research Track Chair, ArabWIC'17 conference
- Publicity Chair, WOPSSS 2016-2019 (Workshop on Performance Scalability of Storage systems)
- Program Co-Chair, INFLOW'16, co-located with OSDI'16
- Program Co-Chair of Grace Hopper 2015
- Industrial Co-Chair of Grace Hopper 2014 Careers Track
- Program Co-Chair, INFLOW'14, 2nd workshop of Interactions of NVM/Flash with Operating-Systems and Workloads. Co-located with with OSDI'14
- Finance Chair, PPOP'14, the 19th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming.
- Program Co-Chair, INFLOW'13, SOSP 2013 1st workshop of Interactions of

NVM/Flash with Operating-Systems and Workloads.

- Industrial Co-Chair of Grace Hopper 2013 Posters Session.
- Publications Chair of the 24th International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2012).
- Associate Vice Program Chair of The 9TH ACS/IEEE International Conference on Computer Systems and Applications (AICCSA) 2011.
- Publications Chair of the Partitionable Global Address Space conference (PGAS) 2010.

**Technical Program Committee Member**

- 2025: NeurIPS
- 2023: Date 23
- 2022: Date 22
- 2021: ScaDL 21, IPDPS
- 2020: HPCA-26 Industry Track
- 2019, Super Computing, HPCA-26 Industry Track, MASCOTS 2019, ISCA 2019
- 2018, GHC, ACM SRC
- 2017, ACM SRC, Cloud Computing 2017, and CCGrid 2017
- 2016, ACM SRC, Cloud Computing 2016, Tapia
- 2015: Super Computing (SC) 2015, CADs 2015, Cloud Computing 2015, NPC 2016, and ACM SRC 2015.
- 2014: Cloud Computing 2014, NPC 2014, and ACM SRC 2014.
- 2013: UCC 2013, The 6th IEEE/ACM International Conference on Utility and Cloud Computing.
- 2012: CCGRID2011, The 11th IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing, GHC PhD Forum, and UCC 2012.
- 2011: CCGRID2011, The 11th IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing.

**PROFESSIONAL  
SERVICE AND  
ACTIVITIES**

- Member of the Scientific Advisor Council, Center for Emerging Artificial Intelligence Systems (CEAIS), University at Albany and IBM , 2024 - present
- Morocco 40 under 40 Mentor
- Secretary-Treasurer for ACM SIGOPS, July 2015- July 2019
- Global Vice Chair of the Arab Women Computing organization, 2013 - present
- Co-chair of IBM Research Watson Women's Network, 2019 - 2020
- ACM-W Scholarship committee member, 2013 - 2019
- Co-Chair of OSPIC, the OS Professional Interest Community at IBM Research, 2014 - 2018

**PROFESSIONAL  
SOCIETIES**

IEEE (Senior Member), ACM (Distinguished Member), ACM-W, Anita Borg Institute Systems, SWE, WITI, ArabWIC

**REFERENCES**

Available Upon Request