# Mohsen Imani

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/5153406/publications.pdf

Version: 2024-02-01

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|---|---|---|---|
| 78 papers | 2,149 citations | 840776 11 h-index | 839539 18 g-index |
| 79 all docs | 79 docs citations | 79 times ranked | 794 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | FloatPIM. , 2019, , . | | 141 |
| 2 | Exploring Hyperdimensional Associative Memory. , 2017, , . | | 132 |
| 3 | VoiceHD: Hyperdimensional Computing for Efficient Speech Recognition. , 2017, , . | | 104 |
| 4 | FELIX. , 2018, , . | | 97 |
| 5 | Ultra-Efficient Processing In-Memory for Data Intensive Applications. , 2017, , . | | 69 |
| 6 | CFPU. , 2017, , . | | 65 |
| 7 | Resistive Configurable Associative Memory for Approximate Computing. , 2016, , . | | 59 |
| 8 | A Framework for Collaborative Learning in Secure High-Dimensional Space. , 2019, , . | | 56 |
| 9 | F5-HD. , 2019, , . | | 56 |
| 10 | ACAM. , 2016, , . | | 51 |
| 11 | DUAL: Acceleration of Clustering Algorithms using Digital-based Processing In-Memory. , 2020, , . | | 51 |
| 12 | MPIM: Multi-purpose in-memory processing using configurable resistive memory. , 2017, , . | | 49 |
| 13 | LookNN: Neural network with no multiplication. , 2017, , . | | 48 |
| 14 | Efficient human activity recognition using hyperdimensional computing. , 2018, , . | | 48 |
| 15 | A Binary Learning Framework for Hyperdimensional Computing. , 2019, , . | | 44 |
| 16 | SearcHD: A Memory-Centric Hyperdimensional Computing With Stochastic Training. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2422-2433. | 2.7 | 43 |
| 17 | HDNA: Energy-efficient DNA sequencing using hyperdimensional computing. , 2018, , . | | 42 |
| 18 | Approximate Computing Using Multiple-Access Single-Charge Associative Memory. IEEE Transactions on Emerging Topics in Computing, 2018, 6, 305-316. | 4.6 | 42 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | BRIC. , 2019, , . | | 40 |
| 20 | QuantHD: A Quantization Framework for Hyperdimensional Computing. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2268-2278. | 2.7 | 39 |
| 21 | NNPIM: A Processing In-Memory Architecture for Neural Network Acceleration. IEEE Transactions on Computers, 2019, 68, 1325-1337. | 3.4 | 38 |
| 22 | RNSnet: In-Memory Neural Network Acceleration Using Residue Number System. , 2018, , . | | 34 |
| 23 | SparseHD: Algorithm-Hardware Co-optimization for Efficient High-Dimensional Computing. , 2019, , . | | 34 |
| 24 | Scalable edge-based hyperdimensional learning system with brain-like neural adaptation. , 2021, , . | | 33 |
| 25 | Low-Power Sparse Hyperdimensional Encoder for Language Recognition. IEEE Design and Test, 2017, 34, 94-101. | 1.2 | 32 |
| 26 | Revisiting HyperDimensional Learning for FPGA and Low-Power Architectures. , 2021, , . | | 31 |
| 27 | Efficient neural network acceleration on GPGPU using content addressable memory. , 2017, , . | | 30 |
| 28 | RMAC. , 2018, , . | | 29 |
| 29 | FACH. , 2019, , . | | 27 |
| 30 | HDCluster: An Accurate Clustering Using Brain-Inspired High-Dimensional Computing. , 2019, , . | | 26 |
| 31 | Accelerating Hyperdimensional Computing on FPGAs by Exploiting Computational Reuse. IEEE Transactions on Computers, 2020, 69, 1159-1171. | 3.4 | 26 |
| 32 | ReMAM: Low energy Resistive Multi-stage Associative Memory for energy efficient computing. , 2016, , . | | 25 |
| 33 | ORCHARD: Visual object recognition accelerator based on approximate in-memory processing. , 2017, , . | | 25 |
| 34 | AdaptHD: Adaptive Efficient Training for Brain-Inspired Hyperdimensional Computing. , 2019, , . | | 23 |
| 35 | Resistive CAM Acceleration for Tunable Approximate Computing. IEEE Transactions on Emerging Topics in Computing, 2019, 7, 271-280. | 4.6 | 23 |
| 36 | OnlineHD: Robust, Efficient, and Single-Pass Online Learning Using Hyperdimensional System. , 2021, , . | | 22 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | CAUSE: Critical application usage-aware memory system using non-volatile memory for mobile devices. , 2015, , . | | 20 |
| 38 | Efficient query processing in crossbar memory. , 2017, , . | | 20 |
| 39 | Hierarchical hyperdimensional computing for energy efficient classification. , 2018, , . | | 19 |
| 40 | Multi-Stage Tunable Approximate Search in Resistive Associative Memory. IEEE Transactions on Multi-Scale Computing Systems, 2018, 4, 17-29. | 2.4 | 17 |
| 41 | MIMHD: Accurate and Efficient Hyperdimensional Inference Using Multi-Bit In-Memory Computing. , 2021, , . | | 17 |
| 42 | Prive-HD: Privacy-Preserved Hyperdimensional Computing. , 2020, , . | | 17 |
| 43 | Hierarchical design of robust and low data dependent FinFET based SRAM array. , 2015, , . | | 16 |
| 44 | CADE: Configurable Approximate Divider for Energy Efficiency. , 2019, , . | | 16 |
| 45 | CompHD: Efficient Hyperdimensional Computing Using Model Compression. , 2019, , . | | 16 |
| 46 | A low-power hybrid magnetic cache architecture exploiting narrow-width values. , 2016, , . | | 15 |
| 47 | SemiHD: Semi-Supervised Learning Using Hyperdimensional Computing. , 2019, , . | | 15 |
| 48 | Runtime Efficiency-Accuracy Tradeoff Using Configurable Floating Point Multiplier. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 346-358. | 2.7 | 15 |
| 49 | GrapHD: Graph-Based Hyperdimensional Memorization for Brain-Like Cognitive Learning. Frontiers in Neuroscience, 2022, 16, 757125. | 2.8 | 15 |
| 50 | Deep neural network acceleration framework under hardware uncertainty. , 2018, , . | | 14 |
| 51 | Deep Learning Acceleration with Neuron-to-Memory Transformation. , 2020, , . | | 14 |
| 52 | StocHD: Stochastic Hyperdimensional System for Efficient and Robust Learning from Raw Data. , 2021, , . | | 14 |
| 53 | ApproxLP. , 2019, , . | | 12 |
| 54 | PAM: A Piecewise-Linearly-Approximated Floating-Point Multiplier With Unbiasedness and Configurability. IEEE Transactions on Computers, 2022, 71, 2473-2486. | 3.4 | 12 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Workload-Aware Opportunistic Energy Efficiency in Multi-FPGA Platforms. , 2019, , . | | 11 |
| 56 | NVQuery: Efficient Query Processing in Nonvolatile Memory. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 628-639. | 2.7 | 11 |
| 57 | Nvalt: Nonvolatile Approximate Lookup Table for GPU Acceleration. IEEE Embedded Systems Letters, 2018, 10, 14-17. | 1.9 | 10 |
| 58 | FPGA Energy Efficiency by Leveraging Thermal Margin. , 2019, , . | | 10 |
| 59 | Exploring Processing In-Memory for Different Technologies. , 2019, , . | | 9 |
| 60 | HyDREA: Towards More Robust and Efficient Machine Learning Systems with Hyperdimensional Computing. , 2021, , . | | 9 |
| 61 | Hierarchical Hyperdimensional Computing for Energy Efficient Classification. , 2018, , . | | 8 |
| 62 | ManiHD: Efficient Hyper-Dimensional Learning Using Manifold Trainable Encoder. , 2021, , . | | 8 |
| 63 | PRID: Model Inversion Privacy Attacks in Hyperdimensional Learning Systems. , 2021, , . | | 7 |
| 64 | GenPIM: Generalized processing in-memory to accelerate data intensive applications. , 2018, , . | | 6 |
| 65 | ALook. , 2019, , . | | 6 |
| 66 | NNgine: Ultra-Efficient Nearest Neighbor Accelerator Based on In-Memory Computing. , 2017, , . | | 5 |
| 67 | Computing-In-Memory Using Ferroelectrics: From Single- to Multi-Input Logic. IEEE Design and Test, 2022, 39, 56-64. | 1.2 | 5 |
| 68 | A Framework for Efficient and Binary Clustering in High-Dimensional Space. , 2021, , . | | 5 |
| 69 | RegHD: Robust and Efficient Regression in Hyper-Dimensional Learning System. , 2021, , . | | 5 |
| 70 | Hardware-Software Co-design to Accelerate Neural Network Applications. ACM Journal on Emerging Technologies in Computing Systems, 2019, 15, 1-18. | 2.3 | 4 |
| 71 | Data Reuse for Accelerated Approximate Warps. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 4623-4634. | 2.7 | 3 |
| 72 | Efficient Associative Search in Brain-Inspired Hyperdimensional Computing. IEEE Design and Test, 2020, 37, 28-35. | 1.2 | 2 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | Program acceleration using nearest distance associative search. , 2018, , . | | 1 |
| 74 | Locality-Based Encoder and Model Quantization for Efficient Hyper-Dimensional Computing. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2022, 41, 897-907. | 2.7 | 1 |
| 75 | Implementing binary neural networks in memory with approximate accumulation. , 2020, , . | | 1 |
| 76 | COSMO: Computing with Stochastic Numbers in Memory. ACM Journal on Emerging Technologies in Computing Systems, 2022, 18, 1-25. | 2.3 | 1 |
| 77 | Deep Learning Acceleration using Digital-Based Processing In-Memory. , 2020, , . | | 0 |
| 78 | Massively Parallel Big Data Classification on a Programmable Processing In-Memory Architecture. , 2021, , . | | 0 |