EREZ ZADOK, CURRICULUM VITAE

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RESEARCH INTERESTS

Operating systems with a special focus on file systems, storage, clouds, big data, hardware/architecture, encryption, security, benchmarking, performance analysis and optimization, energy efficiency, and system administration.

EDUCATION

May 2001	Ph.D., Computer Science, Columbia University, New York, NY, *FiST: A System for Stackable File-System Code Generation.*
Sep 1997	M.Phil., Computer Science, Columbia University, New York, NY
Oct 1994	M.S., Computer Science, Columbia University, New York, NY *Discovery and Hot Replacement of Replicated Read-Only File Systems, with Application to Mobile Computing*
May 1991	B.S., Computer Science, Columbia University, New York, NY
May 1982	Certified Technician, Electrical Engineering, Holtz College, Israel

PROFESSIONAL EXPERIENCE

Aug 2024–preset	Graduate Program Director, Computer Science Department, Stony Brook University
Aug 2017–Jul 2024	Graduate Academic Adviser, Computer Science Department, Stony Brook University
Jan 2016–present	Professor, Computer Science Department, Stony Brook University
Jan 2007–2015	Associate Professor, Computer Science Department, Stony Brook University
Jan 2001–Jan 2007	Assistant Professor, Computer Science Department, Stony Brook University
2013–present	Director, Smart Energy Technologies (SET) Faculty Cluster, Stony Brook University
2013–present	Managing Member; Zadoks Consulting, LLC.
2009–2010	Consultant; CTERA Networks, Inc.
2009–2019	Consultant; Packet General Networks, Inc.
1991–2000	Graduate Research Assistant, Computer Science Department, Columbia University
1999–2000	Director of Software Development, HydraWEB Technologies, Inc.
1994–1998	Project Leader, HydraWEB Technologies, Inc.
1990–1998	Consultant, SOS Corporation
1997	Manager of Computing Facilities, Computer Science Department, Columbia University

1991–1998	Technical Staff Member, Computer Science Department, Columbia University
1989–1991	Assistant Lab Manager, Academic Information Systems, Columbia University
1987–1989	Student Consultant, Academic Information Systems, Columbia University
1984–1986	National Army Service, Israeli Air Force, Israel
1982–1984	Programmer, Commodore Israel, Tel-Aviv, Israel
1981–1984	Computer Lab Manager, Holtz College, Tel-Aviv, Israel

PERSONAL

Born December 4, 1964, Tel-Aviv, Israel.

Married, one child.

Citizenships: U.S.A and Israel

Fluent in English and Hebrew

Member: ACM, ACM SIGOPS, IEEE, IEEE Computer Society, USENIX

Affiliate: Storage Systems Research Center (SSRC), Jack Baskin School of Engineering, University of California, Santa Cruz, California.

Member: The I/O Traces, Tools and Analysis (IOTTA) Technical Work Group (TWG), part of the the Storage Networking Industry Association (SNIA).

FUNDING

Oct 2022–present	*CNS Core: Large: Systems and Verifiable Metrics for Sustainable Data Centers*. NSF. $1,500,000 (SBU share $928,403), 4 years. Co-PI with four other SBU faculty, collaborative with Binghamton University and Penn State University.
Oct 2022–present	*Collaborative Research: CyberTraining: Implementation: Medium: FOUNT: Scaffolded, Hands-On Learning for a Data-Centric Future*. NSF. $996,548 (SBU share $174,905), 3 years. Sole PI at SBU. Collaborative with U. Chicago (lead), NYU, Northern Illinois U., and UC San Diego (6 collaborators total).
2022	*CNS Core: Medium: Optimizing Storage Caches via Adaptive and Reconfigurable Tiering*. NSF Research Experiences for Undergraduates (REU) supplement. $16,000. Lead-PI with one other SBU faculty, collaborative with Emory University.
2022	*SCC-IRG Track 1: Smart Aging: Connecting Communities Using Low-Cost and Secure Sensing Technologies*. NSF Research Experiences for Undergraduates (REU) supplement. $24,000. Co-PI with four other SBU faculty.
2022	*CNS Core: Medium: Optimizing Storage Caches via Adaptive and Reconfigurable Tiering*. NSF Research Experiences for Undergraduates (REU) supplement. $16,000. Lead-PI with one other SBU faculty, collaborative with Emory University.
2022	*CNS Core: III: Medium: Collaborative Research: Optimizing and Understanding Large Parameter Spaces in Storage Systems*. NSF Research Experiences for Undergraduates (REU) supplement. $16,000. Lead PI with one other.

Oct 2021–present	*CNS Core: Medium: Optimizing Storage Caches via Adaptive and Reconfigurable Tiering*. NSF. $800,000 (SBU share $533,333), 3 years. Lead-PI with one other SBU faculty, collaborative with Emory University.
Oct 2021–present	*CNS Core: Medium: Secure, Reliable, and Efficient Long-Term Storage*. NSF. $1,198,842 (SBU share $717,303), 4 years. Lead-PI with one other SBU faculty, collaborative with UC Santa Cruz.
2021–2022	*Kubernetes/Containerizations on GPU Clusters for AI*. SUNY-IBM AI Collaborative Research Alliance. $100,000. Co-PI with two others.
2020–2021	*Automated Cross-Validation of TLS 1.3 Implementations*. Facebook Faculty Research Award. $50,000. Lead PI with two others.
Oct 2020–present	*SCC-IRG Track 1: Smart Aging: Connecting Communities Using Low-Cost and Secure Sensing Technologies*. NSF Smart and Connected Communities. $1,700,126, 4 years. Co-PI with four other SBU faculty.
Sep 2020–present	*Recruitment and Retention of Women Undergraduates*. Center for Inclusive Computing Diversity Initiative, by Northeastern University and Pivotal Ventures. $295,742, 4 years. Co-PI with four other SBU faculty.
2020	*FMitF: Track I: NLP-Assisted Formal Verification of the NFS Distributed File System Protocol*. NSF Research Experiences for Undergraduates (REU) supplement. $16,000. Lead PI with two others.
2020	*CNS Core: III: Medium: Collaborative Research: Optimizing and Understanding Large Parameter Spaces in Storage Systems*. NSF Research Experiences for Undergraduates (REU) supplement. $8,000. Lead PI with one other.
Oct 2019–present	*CNS Core: III: Medium: Collaborative Research: Optimizing and Understanding Large Parameter Spaces in Storage Systems* NSF. $1,088,017 (SBU share $823,142), 4 years. Lead-PI with one other SBU faculty, collaborative with Harvey Mudd College.
Oct 2019–present	*FMitF: Track I: NLP-Assisted Formal Verification of the NFS Distributed File System Protocol* NSF. $748,300, 3 years. Lead-PI with two other SBU faculty.
2019	*CI-SUSTAIN: National File System Trace Repository*. NSF Research Experiences for Undergraduates (REU) supplement. $8,000. Sole PI.
2019	*Study of a Novel Non-Wearable Respiration and Heart Rate Sensor in Cardiopulmonary Exercise Testing*. Stony Brook College of Engineering and Applied Sciences, SEED grant. $15,000, Co-PI with five others.
2019	*Realizing the Full Performance and Parallelization Potential of Modern Storage Architectures for Big Data Applications*. Stony Brook Research Foundation, SEED grant. $60,000, Co-PI with Anshul Gandhi.
2018	*Storage/Deduplication research*. Dell-EMC Corporation. $25,000, Single PI.
Jun 2017–present	*CI-SUSTAIN: National File System Trace Repository*. NSF. $129,867 (SBU share), 3 years. Co-PI with lead institution Harvey Mudd College.
2017–2022	*I/UCRC Phase II: Center for Visual and Decision Informatics (CVDI) Site at SUNY Stony Brook*. NSF. $400,000, 4 years. Co-PI with A. Kaufman, K. Mueller,

	H. Schwartz, and D. Samaras.
2017	Dell-EMC Corporation. *Storage/Deduplication research*, $25,000, Single PI.
2016–2021	*NRT-DESE: Interdisciplinary Graduate Training to Understand and Inform Decision Processes Using Advanced Spatial Data Analysis and Visualization (STRIDE).* NSF. $2,993,930, 5 years. Senior personnel.
2016–2019	*Early Detection of User-impersonating Attackers using Multilayer Tripwires*, U.S. Office of Naval Research (ONR). $586,215, 3 years. Co-PI with Nick Nikiforakis.
Jun 2016–2019	*EAGER: Elastic Multi-layer Memcached Tiers* NSF. $257,165, 2 years. Co-PI with Anshul Gandhi.
2016	EMC Corporation. *Storage/Deduplication research*, $25,000, Single PI.
2015	EMC Corporation. *Storage/Deduplication research*, $25,000, Single PI.
Feb 2015	*Student Travel Support for the 13th USENIX Conference on File and Storage Technologies (FAST 2015).* NSF. $20,000, 1 year. Sole PI.
Sep 2014–2017	*Adaptive Runtime Verification and Recovery for Mission-Critical Software.* U.S. Air Force Office of Scientific Research (AFOSR). $620,861, 3 years. Co-PI with Scott A. Smolka and Scott D. Stoller. (Collaboration with NASA JPL.)
Jan 2014–2016	*Smarter Electric Grid Research, Innovation, Development, Demonstration, Deployment Center (SGRID3).* Brookhaven Science Associates LLC (BNL), $236,397, 1 year. Lead-PI with one other Stony Brook Co-PI.
2014	EMC Corporation. *Storage/Deduplication research*, $25,000, Sole PI.
Jun 2013–2017	*CSR: Medium: Collaborative Research: Workload-Aware Storage Architectures for Optimal Performance and Energy Efficiency.* NSF. $513,900 (SBU share, total budget $1,000,000), 3 years. Lead-PI with one other Stony Brook Co-PI, and two more institutions (Harvard U. and Harvey Mudd College).
Jan 2013–2017	*BIGDATA: Small: DCM: Collaborative Research: An efficient, versatile, scalable, and portable storage system for scientific data containers.* NSF. $444,267 (SBU share, total budget $746,290), 3 years. Lead-PI with two other Stony Brook Co-PIs, and two more institutions (Brandeis U. and Louisiana State U.).
Sep 2013–2017	*CRI-CI-ADDO-EN: National File System Trace Repository.* NSF. $37,018 (SBU share, total budget $167,817), 3 years. Co-PI with lead institution Harvey Mudd College.
2013	Western Digital Research award. *Shingled Magnetic Recording Disks Benchmarking*, $50,000, Single PI.
Sep 2012 – 2016	*NFS4Sec: An Extensible Security Layer for Network Storage.* NSF. $486,783, 3 years. Lead-PI with one other Co-PI.
2012-2013	*Server-Class Performance vs. Energy Optimizations.* Government of Israel (GoI), Mission to the USA. $47,152, 1 year. Lead PI with one other Co-PI.
2011	NetApp Research award. *Dedup Workload Modeling, Synthetic Datasets, and Scalable Benchmarking*, $40,000, Single PI.

2010	NetApp Research award. *A Study of Network Storage Benefits using FLASH Hardware with Indexing Workloads*, $40,000, Single PI.
Nov 2010 – 2016	*Long Island Smart Energy Corridor*. Department of Energy (DOE), LIPA, and New York State. Collaboration between Stony Brook University, SUNY Farmingdale, and LIPA. $2,822,638, Co-PI.
Sep 2009 – Aug 2013	*Collaborative Research: Performance- and Energy-Aware HEC Storage Stacks*. NSF. $652,000, 3 years. Co-PI with Geoff Kuenning (Harvey Mudd College)
Sep 2009 – Aug 2013	*Collaborative Research: Secure Provenance in High End Computing Systems*. NSF. $564,972, 3 years. Co-PI with Radu Sion. Collaborative project with Patrick McDaniel (Penn State U.) and Marianne Winslett (UIUC).
Apr 2009 – Nov 2012	*Survivable Software*. U.S. Air Force Office of Scientific Research (AFOSR). $881,691, 39 months. Co-PI with Scott A. Smolka, Radu Grosu, Scott D. Stoller, and Klaus Havelund (NASA JPL).
Feb 2010	*Student Travel Support for the First USENIX Workshop on Sustainable Information Technology (SustainIT 2010)*. NSF. $10,000, 1 year. Lead PI.
2009	Network Appliance Research award. *Power use in Storage Servers*. $30,000 Single PI.
2008	*The Impact of Storage Software and Aging on Power Consumption*, **IBM Faculty award** (IBM T.J. Watson Labs). $20,000, one year. Single PI.
2008	Network Appliance Equipment gift. *A Study of User File Access Patterns*. $91,083 Single PI.
Sep 2007 – 2015	*Center for Information Protection: A Multi-University Industry/University Collaborative Research Center*. NSF. $250,147, 5 years. Co-PI with R. Sekar (PI), Tzi-Cker Chiueh, Scott Stoller, and Radu Sion.
Sep 2006 – Aug 2009	*CT-ISG: N3S: Networked Secure Searchable Storage with Privacy and Correctness Assurances*. NSF. $300,000, 3 years. Co-PI with Radu Sion.
Aug 2006 – Aug 2010	*File System Tracing, Replaying, Profiling, and Analysis on HEC Systems*. NSF. $760,252, 3 years. Lead PI with Klaus Mueller (Stony Brook) and Ethan Miller (UC Santa Cruz).
Jul 2006	*End-to-End File Server Security*, **IBM Faculty award** (IBM Haifa Research Labs). $20,000, one year. Single PI.
Jun 2006 – Aug 2010	*CSR—PDOS: Support for Atomic Sequences of File System Operations*. NSF. $561,727, 3 years. Lead PI with Margo Seltzer (Harvard University).
Jan 2006 – Dec 2006	*Secure File Systems*, NY State "Millennium" award, $204,528, one year. Co-PI with R. Sekar (PI), Tzi-Cker Chiueh, CR Ramakrishnan, Radu Sion, and Scott D. Stoller.
Jul 2005 – Aug 2010	*CSR—AES: Runtime-Monitoring and Model Checking for High-Confidence Systems Software*. NSF. $830,000, 4 years. Lead PI with Radu Grosu, Y. Annie Liu, Scott Smolka, and Scott D. Stoller.
Sep 2005 – Aug 2004	*I/UCRC: A Plan for Developing a Multi-University Industry/University Collaborative Research Center on Cyber Security*. NSF. $9,987, one year. Co-PI with R.

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