## EREZ ZADOK, CURRICULUM VITAE

Erez Zadok Computer Science Department 349 New Computer Science Stony Brook University Stony Brook, NY 11794-2424 Phone: +1 631 632 8461 (office) Fax: +1 631 632 8243 Timezone: US/Eastern Email: ezk@cs.stonybrook.edu Web: http://www.cs.sunysb.edu/~ezk

## **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**

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- May 2001Ph.D., Computer Science, Columbia University, New York, NY,<br/>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 2017-present	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
2022-present	Technical Expert; Latham & Watkins, LLP
2021-present	Technical Expert; King & Spalding LLP.
2021-2022	Technical Expert; Wilson Sonsini Goodrich & Rosati (WSGR) LLP.
2021-present	Technical Expert; Perkins Coie LLP
2021-present	Technical Expert; Morrison & Forester, LLP.
2021-2022	Technical Expert; Jones Day, LLP.
2021-present	Technical Expert; Orrick, Herrington & Sutcliffe, LLP.
2021	Technical Expert; Fasken Martineau DuMoulin LLP
2020	Technical Expert; United States Attorney's Office, Eastern District of New York
2020	Technical Expert; Latham & Watkins, LLP

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2020	Technical Expert; Morgan Lewis & Bockius LLP
2020-2021	Technical Expert; Covington & Burling, LLP
2019–2020	Technical Expert; Quinn Emanuel Urquhart & Sullivan, LLP
2019	Technical Expert; Hogan Lovells LLP.
2018-2020	Technical Expert; King & Spalding LLP.
2018–2019	Technical Expert; Orrick, Herrington & Sutcliffe, LLP.
2017–2018	Technical Expert; Weil, Gotshal & Manges LLP.
2017–2019	Technical Expert; Keker, Van Nest, & Peters LLP.
2016–2018	Technical Expert; Sterne, Kessler, Goldstein & Fox, P.L.L.C.
2015-2018	Technical Expert; Wilmer Cutler Pickering Hale and Dorr LLP. (WilmerHale)
2015–2017	Technical Expert; Ropes & Gray, LLP.
2014–2015	Technical Expert; Foley & Lardner, LLP.
2014–2016	Technical Expert; Latham & Watkins, LLP.
2014–2016	Technical Expert; Keker & Van Nest, LLP.
2013-present	Managing Member; Zadoks Consulting, LLC.
2013–2014	Technical Expert; Sterne, Kessler, Goldstein & Fox, P.L.L.C.
2013	Technical Expert; Akin, Gump, Strauss, Hauer & Feld, LLP.
2012-2015	Technical Expert; Susman Godfrey, LLP.
2012–2013	Technical Expert; Fish Richardson, LLP.
2010–2011	Technical Expert; Sughrue Mion, LLP.
2010	Technical Expert; One LLP.
2009–2010	Consultant; CTERA Networks, Inc.
2009-present	Consultant; Packet General Networks, Inc.
2006–2007	Technical Expert; Hennigan, Bennett, and Dorman, LLP.
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 Univer- sity
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

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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, 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

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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.
2022	<i>CNS Core: Medium: Optimizing Storage Caches via Adaptive and Reconfig- urable Tiering.</i> NSF Research Experiences for Undergraduates (REU) supple- ment. \$16,000. Lead-PI with one other SBU faculty, collaborative with Emory University.
2022	CNS Core: III: Medium: Collaborative Research: Optimizing and Understand- ing Large Parameter Spaces in Storage Systems. NSF Research Experiences for Undergraduates (REU) supplement. \$16,000. Lead PI with one other.
Oct 2021–present	<i>CNS Core: Medium: Optimizing Storage Caches via Adaptive and Reconfigurable Tiering.</i> NSF. \$800,000 (SBU share \$533,333, 3 years. Lead-PI with one other SBU faculty, collaborative with Emory University.
Oct 2021-present	<i>CNS Core: Medium: Secure, Reliable, and Efficient Long-Term Storage.</i> 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 Collabora- tive 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 five other SBU faculty.

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2020	<i>FMitF: Track I: NLP-Assisted Formal Verification of the NFS Distributed File System Protocol.</i> NSF Research Experiences for Undergraduates (REU) supplement. \$16,000. Lead PI with two others.
2020	CNS Core: III: Medium: Collaborative Research: Optimizing and Understand- ing Large Parameter Spaces in Storage Systems. NSF Research Experiences for Undergraduates (REU) supplement. \$8,000. Lead PI with one other.
Oct 2019–present	<i>CNS Core: III: Medium: Collaborative Research: Optimizing and Understand- ing Large Parameter Spaces in Storage Systems</i> NSF. \$1,088,017 (SBU share \$823,142), 4 years. Lead-PI with one other SBU faculty, collaborative with Har- vey Mudd College.
Oct 2019-present	<i>FMitF: Track I: NLP-Assisted Formal Verification of the NFS Distributed File System Protocol</i> 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 Cardiopul- monary Exercise Testing. Stony Brook College of Engineering and Applied Sci- ences, SEED grant. \$15,000, Co-PI with five others.
2019	Realizing the Full Performance and Parallelization Potential of Modern Stor- age 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	<i>CI-SUSTAIN: National File System Trace Repository.</i> NSF. \$129,867 (SBU share), 3 years. Co-PI with lead institution Harvey Mudd College.
2017–2022	<i>I/UCRC Phase II: Center for Visual and Decision Informatics (CVDI) Site at SUNY Stony Brook.</i> 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 Deci- sion Processes Using Advanced Spatial Data Analysis and Visualization (STRIDE). NSF. \$2,993,930, 5 years. Senior personnel.
2016–2019	<i>Early Detection of User-impersonating Attackers using Multilayer Tripwires</i> , 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 13 <sup>th</sup> 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

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	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	<i>CSR: Medium: Collaborative Research: Workload-Aware Storage Architectures for Optimal Performance and Energy Efficiency.</i> 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	<i>BIGDATA: Small: DCM: Collaborative Research: An efficient, versatile, scalable, and portable storage system for scientific data containers.</i> 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	<i>CRI-CI-ADDO-EN: National File System Trace Repository.</i> NSF. \$37,018 (SBU share, total budget \$167,817), 3 years. Co-PI with lead institution Harvey Mudd College.
2013	Western Digital Research award. <i>Shingled Magnetic Recording Disks Benchmark-ing</i> , \$50,000, Single PI.
Sep 2012 – 2016	<i>NFS4Sec: An Extensible Security Layer for Network Storage</i> . 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. <i>Dedup Workload Modeling, Synthetic Datasets, and Scalable Benchmarking</i> , \$40,000, Single PI.
2010	NetApp Research award. A Study of Network Storage Benefits using FLASH Hard- ware with Indexing Workloads, \$40,000, Single PI.
Nov 2010 – 2016	<i>Long Island Smart Energy Corridor</i> . Department of Energy (DOE), LIPA, and New York State. Collaboration between Stony Brook University, SUNY Farming-dale, 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	<i>Collaborative Research: Secure Provenance in High End Computing Systems.</i> 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	<i>Survivable Software</i> . 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 Informa- tion Technology (SustainIT 2010). NSF. \$10,000, 1 year. Lead PI.
2009	Network Appliance Research award. <i>Power use in Storage Servers.</i> \$30,000 Single PI.

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