

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 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
- 2020–present Technical Expert; Morgan Lewis & Bockius LLP
- 2020–present Technical Expert; Covington & Burling, LLP
- 2019–present Technical Expert; Quinn Emanuel Urquhart & Sullivan, LLP
- 2019 Technical Expert; Hogan Lovells LLP.
- 2018–present 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; Kecker, 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; Keeker & 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 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, 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 2019–present	<i>CNS Core: III: Medium: Collaborative Research: Optimizing and Understanding 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 Harvey 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	<i>CI-SUSTAIN: National File System Trace Repository</i> . NSF Research Experiences for Undergraduates (REU) supplement. \$8,000. Sole PI.
2019	<i>Study of a Novel Non-Wearable Respiration and Heart Rate Sensor in Cardiopulmonary Exercise Testing</i> . Stony Brook College of Engineering and Applied Sciences, SEED grant. \$15,000, Co-PI with five others.
2019	<i>Realizing the Full Performance and Parallelization Potential of Modern Storage Architectures for Big Data Applications</i> . Stony Brook Research Foundation, SEED grant. \$60,000, Co-PI with Anshul Gandhi.
2018	<i>Storage/Deduplication research</i> . 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. <i>Storage/Deduplication research</i> , \$25,000, Single PI.
2016–2021	<i>NRT-DESE: Interdisciplinary Graduate Training to Understand and Inform Decision Processes Using Advanced Spatial Data Analysis and Visualization (STRIDE)</i> . NSF. \$2,993,930, 5 years. Senior personnel.
Mar 2016–present	<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	<i>EAGER: Elastic Multi-layer Memcached Tiers</i> NSF. \$257,165, 2 years. Co-PI with Anshul Gandhi.
2016	EMC Corporation. <i>Storage/Deduplication research</i> , \$25,000, Single PI.
2015	EMC Corporation. <i>Storage/Deduplication research</i> , \$25,000, Single PI.
Feb 2015	<i>Student Travel Support for the 13th USENIX Conference on File and Storage Technologies (FAST 2015)</i> . NSF. \$20,000, 1 year. Sole PI.
Sep 2014–2017	<i>Adaptive Runtime Verification and Recovery for Mission-Critical Software</i> . 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. Sekar, Radu Sion Scott D. Stoller, and Tzi-Cker Chiueh.
- Sep 2004 – Aug 2009 *Federal Cyber Service: Scholarship for Service (SFS)*. NSF. \$2,459,061, 4 years. Co-PI with R. Sekar, Scott D. Stoller, I. V. Ramakrishnan, and Tzi-Cker Chiueh.
- Sep 2003 – Aug 2008 *A Layered Approach to Securing Network File Systems*. NSF Trusted Computing Program (TC). \$400,000, 3 years. Single PI.
- Sep 2003 – Aug 2005 *Collaborative Research: Capacity Expansion in Information Assurance*. NSF Collaborative Research Proposal (CAP). \$199,883, 2 years. Co-PI with R. Sekar, Scott D. Stoller, and I. V. Ramakrishnan.
- Sep 2002 – Aug 2007 **CAREER**: *An In-Kernel Runtime Execution Environment for User-Level Programs*. NSF Next Generation Software Program (NGS). \$400,000, 5 years. Single PI.
- Jan 2003 – Dec 2003 *Assessing the Technological Basis for Enterprise Protection*, NIJ (CyberScience Lab) CSL. \$90,563, one year. Co-PI with R. Sekar, Tzi-cker Chiueh, and Scott D. Stoller.
- Sep 2002 – May 2003 New York State Strategic Partnership for Industrial Resurgence (SPIR), with Packet General Networks. *S3: Secure Shared Storage*. \$94,581. Single PI.

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