

MICHAEL B. SULLIVAN

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RESEARCH INTERESTS	I am interested in the design of dependable, secure, and efficient computer systems. My research is focused on cross-layer system architecture and it uses hardware improvements, software techniques, and novel hardware/software collaborative mechanisms as appropriate.	
PROFESSIONAL EXPERIENCE	NVIDIA Corporation , Austin, TX Senior Research Scientist, Architecture Research Group (ARG)	2015–
	Research Assistant Positions University of Texas, Austin, TX	2010–2015
	Los Alamos National Laboratory (LANL), Los Alamos, NM	2011
	George Mason University, Fairfax, VA	2007–2008
	Argonne National Laboratory, Argonne, IL	2007
	University of California at Irvine, Irvine, CA	2006
EDUCATION	University of Texas , Austin, TX Ph.D. in Computer Engineering	2015
	M.S.E. in Computer Engineering	2011
	George Mason University , Fairfax, VA M.S. in Computer Science	2009
	B.S. in Computer Engineering and B.A. in Mathematics, <i>summa cum laude</i>	2008
SELECTED PUBLICATIONS	“Hardware-Accelerated Memory Tagging through Alias-Free Tagged ECC” in the <i>International Symposium on Computer Architecture (ISCA)</i> .	2023
	“Characterizing and Mitigating Soft Errors in GPU DRAM,” in <i>IEEE MICRO Top Picks from the 2021 Computer Architecture Conferences</i> .	2022
	“Buddy Compression: Enabling Larger Memory for Deep Learning and HPC Workloads on GPUs,” in the <i>International Symposium on Computer Architecture (ISCA)</i> .	2020
	“SwapCodes: Error Codes for Hardware-Software Cooperative GPU Pipeline Error Detection,” in the <i>International Symposium on Microarchitecture (MICRO)</i> .	2018
	“Understanding Error Propagation in Deep Learning Neural Network (DNN) Accelerators and Applications,” in the <i>Conference on High Performance Computing, Networking, Storage and Analysis (SC)</i> .	2017
SELECTED AWARDS	Cockrell School of Engineering Fellowship	2011–13
	National Defense Science & Engineering (NDSEG) Graduate Fellowship	2008–11
	Outstanding Achievement Award in Graduate Computer Science	2009
	GMU University Scholar	2004–08
HARDWARE	Binary instrumentation (Pin/NVBit); microarchitectural simulation; Verilog and the Synopsys tools for RTL design, neutron and proton beam testing for soft error characterization.	
SOFTWARE	C/C++ (CUDA/OpenCL/MPI), Python (numpy/scipy/numba/Pandas).	