

MICHAEL B. SULLIVAN

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RESEARCH INTERESTS	I am interested in the design of dependable and efficient computer systems. My current 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 M.S.E. in Computer Engineering	2015 2011
	George Mason University , Fairfax, VA M.S. in Computer Science B.S. in Computer Engineering and B.A. in Mathematics, <i>summa cum laude</i>	2009 2008
SELECTED PUBLICATIONS	“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
	“Bamboo ECC: Strong, Safe, and Flexible Codes for Reliable Computer Memory,” in the <i>Symposium on High Performance Computer Architecture (HPCA)</i> .	2015
SELECTED AWARDS	Cockrell School of Engineering Fellowship National Defense Science & Engineering (NDSEG) Graduate Fellowship Outstanding Achievement Award in Graduate Computer Science GMU University Scholar	2011–13 2008–11 2009 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).	