

John Sarris Burke

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Computer Engineer with skills in Computer Architecture seeking challenging positions in hardware design and high performance programming

Education

Boston University College of Engineering, Boston, MA

Master of Engineering in Computer Engineering, September 2017 expected

GPA – 3.26/4.0

Bachelor of Science in Electrical Engineering, September 2011

GPA – 3.05/4.0

Technical Skills

Languages	C, C++, Verilog, CUDA, Python, Perl, MATLAB, ATS, Assembly (x86, RISC-V, ARM)
Software And Tools	Xilinx ISE and Vivado, PyMTL, Visual Studio, Windbg, L ^A T _E X, SPIM, Valgrind, Cadence, gdb, gtkwave, Qt
Additional	Strong Experience with Linux and Windows, Synthesis targeting FPGAs, Machine Learning Techniques

Work and Research Experience

Boston University

Boston, MA, May 2017 to Present

Research with BU Integrated Circuits and Systems Group (ICSG)

- ◇ Mapped the RISC-V Berkely Out of Order Machine onto FPGA with the Rocket Chip Generator
- ◇ Utilized and developed skills with RISC-V cross compiler, emulators, Linux, and related tools

MEDITECH

Framingham, MA, November 2011 to January 2017

System Analyst and Tool Development

- ◇ Developed TruCode Interface, in-house portion of the Site Information Retrieval Tool, other tools
- ◇ Fixed and updated Meditech Software in C++, x86 Assembly, and Proprietary Languages

Boston University

Boston, MA, September 2009 to May 2011

Undergraduate Teaching Assistant

- ◇ Assisted Professor teaching MATLAB to Engineering students
- ◇ Graded exams and quizzes, managed labs, recitations, and office hours

Relevant Projects

Boston University, Computer Architecture: Multicore Tiny RISC-V Processor

- ◇ Made a Quadcore CPU in Verilog using a restricted RISC-V ISA, private L1i caches, shared L1d
- ◇ Verified with PyMTL and by cross-compiling a parallel hybrid Merge-Quick sort written in C

Boston University, High Performance Programming: N-Body Simulation

- ◇ Designed an N-Body Gravitational simulation using the Barnes-Hut algorithm
- ◇ Multi-threaded C code with investigation of Intel Intrinsics, and a simpler model in CUDA

MEDITECH, Site Information Retrieval Tool (SIRT) and TruCode Interface

- ◇ SIRT - Designed tools to decrypt and trend data for early issue detection on servers at hospitals
- ◇ TruCode - DLL to let MEDITECH software operate with TruCode's coding and billing software

Boston University, Capstone, Magnetic Environment Sensor for the Naval Undersea Warfare Center

- ◇ Team project to create a device to sample and process magnetic fields and return frequency content
- ◇ Project started with initial design phases until a functional prototype

Philanthropy

Served several times in Mississippi for Hurricane Katrina Relief, impoverished areas of West Virginia. Often assist at Saint Francis House in Boston.