John Sarris Burke

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Master's candidate in Computer Engineering focusing on computer architecture seeking a challenging position in the digital design industry

Technical Skills

Languages	C/C++, Verilog, CUDA, Python, Perl, MATLAB, ATS, Scala, Assembly (x86, RISC-V, ARM)
Software And Tools	Xilinx ISE, PyMTL, Visual Studio, Windbg, LaTeX , SPIM, Valgrind, Cadence, gdb, gtkwave
Additional	Strong Experience with Linux and Windows, Synthesis targeting FPGAs

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

Work and Research Experience

Boston University , Boston, MA, May 2017 to present
Research with BU Integrated Circuits and Systems Group (ISCG)
- ◇ Working to implement the RISC-V Berkely Out of Order Machine on FPGA using the Rocket Chip Generator
- ◇ Utilizaing and developing 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 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.