# John Sarris Burke

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Computer Engineer with skills in Computer Architecture seeking a challenging position in processor design.

## 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

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| **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 |

## Work and Research Experience

**Boston University**                                   **Boston, MA, May 2017 to Present**

Research with BU Integrated Circuits and Systems Group (ICSG)

  ◇ Working to implement the RISC-V Berkely Out of Order Machine on FPGA with 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.