ROSS MIKULSKIS

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EDUCATION

Boston University

PhD Computer Science   **Start 09/2025**
- Specialization in Real-time Operating Systems

BA/MS Computer Science   **Expected 05/2025**
- **Cumulative GPA:** 3.72/4.0
- **Notable Courses:** Object Oriented Design (CS611), Cloud Computing (CS 528), Operating Systems (CS 552), Databases (CS660), Algorithms (CS 630), Machine Learning (CS542), Functional Programming (CS 320)

SKILLS

- **Programming Languages:** C/C++, Python, Rust, Bash
- **Tools & frameworks:** Kubernetes, Docker, Git, Emacs, Flutterflow
- **Specialties:** CI/CD, Real-Time Operating Systems, Kernel Development

PROJECTS (www.github.com/rkulskis)

Omnitest   **01/2025**
- Built a language-agnostic testing framework for CI/CD testing

Bits of CS Inc.   **03/2023 - Present**
- Founded a nonprofit, free online education.
- Authored a college-level curricula computer science textbook, published online (www.bitsofcs.com)

Standalone Operating System   **12/2023**
- Co-developed a virtual disk in C and Assembly on intel i386 architecture with FIFO thread scheduling, inode-based file system, dual-mode system calls, and memory mapping

WORK HISTORY

BU Student Researcher under Professor Rich West, PhD, Boston University   **07/2024 - Present**
- **RT-DDS**: Built a pub-sub real-time data distribution service on the Quest real-time OS and Linux
- Provides unparalleled timing and predictability guarantees compared to to GStreamer or ROS/ROS2.

Red Hat Collaboratory, Boston   **09/2023 - 07/2024**
- **Unikernel Linux**: Hacked Linux with Professor Orran Krieger, PhD, to dynamically link applications to the kernel for performance gains in industrial workloads (e.g., improved Redis throughput by 22%)
- **OPE Gradescope Bridge**: Implemented scalable OpenShift service REST API for grading student assignment code in Open Education Framework
- **OPE Testing**: Automated testing in container build process with GitHub Actions shell and Jupyter Notebook tests; reduced container build time by 70% using mamba

Teaching Assistant, Boston University, Boston, MA   **09/2022 - Present**
- Taught CS 131 (Combinatorics) for two semesters and CS 330 (Algorithms) for 5 semesters

PUBLICATIONS

- Ross Mikulskis, Peter West, Rafi Syed, Zhiyuan Ruan, Richard West. **"RT-DDS: A Real-Time Data Distribution Service for Task Pipeline Processing"**. Manuscript in preparation.

HONORS AND AWARDS

- **Hariri Institute Student Excellence Award**, Boston University   **06/2024**
- **BU Student Academic Enhancement Fund**, Awarded $700 for Bits of CS textbook   **10/2023**
- **Thomas M. Menino Scholarship recipient (full-tuition)**, Boston University   **03/2021**
- **All-State Jazz Trumpet - 2nd place**, MMEA All-State   **01/2021**

VOLUNTEER WORK

Big Brothers Big Sisters of Eastern Mass   **10/2023 - Present**
- Volunteer Big Brother in BU community program, meet with brother every 2 weeks

Charity Runner in Falmouth Road Race   **08/2023**
- Raised $850 in funds for *Soccer Without Borders Boston*

Fundraising Chair, Phi Kappa Tau   **01/2023 - 05/2023**
- Organized a concert with Berklee student-led bands with net profit of $800