SANSKRITI SHARMA

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EDUCATION

PhD in Computer Science (Dean's fellowship, Research Fellowship and Teaching Fellowship) **In Progress**
Boston University
B.S. in Computer Engineering (Minors in Math and Psychology) with Honors **May 2021**
University of Massachusetts Lowell (GPA: 3.85 – Summa Cum Laude)

SKILLS

Programming Languages: C, C++, Python, Golang, Rego (Open Policy Agent), x86 Assembly, bash, SQL
Platforms and Frameworks: Linux, Docker, Kubernetes, Flink, ZCU102
Source Control, Documentation and Debugging: Github, Gitlab, Confluence, man pages, Bugzilla, gdb

RELEVANT WORK EXPERIENCE

Internship, RedHat, Inc. (IBM), Boston, MA **June 2022 – August 2022**

- Implemented Linux Trace Toolkit (LTTng) over a modified, energy aware Linux kernel
- Engineered control flow graph based milestone selection for time integrity of real time applications

Co-op, Affirmed Networks (Microsoft), Acton, MA **January 2020 – June 2020**

- Developed a new project that mutated Kubernetes singletons to create High Availability, using Rego and Open Policy Agent's Mutating and Validating Webhooks.
- Documented the project from beginning to end using Confluence.
- Deployed a Golang webserver on Docker/Kubernetes.

Co-op, Red Hat, Inc. (IBM), Westford, MA **June 2018 – December 2018**

- Contributed code patches to the upstream Linux kernel that fixed Coverity code scanner warnings (merged into primary Linux tree by Linus Torvalds and backported to stable trees).
- Worked on virtual memory tools to explore and test new Intel x86 5-level page table feature.
- Backported various CE security fixes to RHEL.
- Worked on automating kernel livepatching patch generation tools.

RELEVANT RESEARCH EXPERIENCE

Research Assistant, Programmable Smart Machines Lab, Boston University **September 2021 -**

- Experimented on and collected data from Linux device drivers for the purpose of understanding performance – energy interactions
- Scripted benchmarks to test modification overheads for various projects
- Mentored undergraduate students as they engineered a stream processing program on top of a modified kernel

Undergraduate Research Assistant, Human Robot Interaction Lab,UMass Lowell **June 2019 – August 2019**

- Refactored navigation code to make it easier to use and more maintainable.
- Developed several useful navigation scripts for debugging.
- Created an api for accessing joint states data.

Undergraduate Research Assistant, Energy Combustion and Research Lab,UMass Lowell **May 2017- May 2019**

- First author on paper "ECabc: A feature tuning program focused on Artificial Neural Network hyperparameters" (DOI: 10.21105/joss.01420), which is an algorithm to optimize the hyperparameters of an ANN with greater precision than the manual grid method.
- Contributed to the code and managed the databases for an ANN that helps predict qualities (such as Cetane number and Yield Sooting Index) of next generation bio-fuels.

RELEVANT PROJECTS

Undergraduate Capstone Project – Wonder Wheel **2020 - 2021**
• Initiated and implemented an affordable wheelchair power assist device using an ESP32 microcontroller and an ODrive motor controller.

Hack UMass – Project CodeAbility (Best Hack and Best Documentation Awards) **2018**
• Developed a hands-free programming system that converted speech to code using Google's speech api and an abstract syntax tree. It allowed editing and navigation with voice commands and a foot pedal system that worked using a vim layer over the atom editor