Didier Ishimwe

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Education

Ph.D - Computer Science — Expected Dec 2023
George Mason University, Fairfax, VA

MS - Computer Science — Dec 2021
University of Nebraska, Lincoln, NE

BA - Computer Science — May 2018
William Penn University, Oskaloosa, IA

Summer School on Formal Techniques — Summer 2019
Stanford Research International, CA

Experience

University of Nebraska Lincoln — Lincoln, NE
- *Research Assistant* — 2018 to Present

- **Program Complexity Analysis:** Designed and implemented an algorithm to analyze worst-case running time complexity of programs. This algorithm can be used for profiling systems with timing constraints `https://www.cs.yale.edu/homes/antonopoulos-timos/SEAD-2020.pdf`
- **Predictive Failure Avoidance project:** Abstracting inputs that leads to program failures (ex: assertion violations) and automatically repairing those inputs so that the program runs successfully with acceptable output
- **Dynamic Invariant Generation:** Worked on a project to produce non-trivial numerical invariants that are useful to verify the absence of errors in safety critical systems

University of Nebraska Lincoln — Lincoln, NE
- *Teaching Assistant*

- Compiler Construction — Spring 2020
- Software Testing & Verification — Fall 2019
- Intro to Computer Science — Fall 2018 & Spring 2019

Purdue University — West Lafayette, IN
- *Research Assistant* — Summer 2017

- Built a simulation tool to predict irradiation-induced nanocluster evolution in iron based materials
- Published the tool on `https://nanohub.org/tools/ncevol/` and research report on Purdue ePubs

Relevant Skills & Coursework

Proficient in: Python, C, Ocaml
Skills: Linux, Git, Docker, Scripting (Bash)
Other skills: Excellent oral and written communication skills, teamwork, time management and documentation
Coursework: Algorithms Design & Implementation, Data Structures & Algorithms, Mobile Software Analysis

Honors & Awards

- Graduate Teaching Assistantship at University of Nebraska-Lincoln — Fall 2018 to Spring 2020
- Graduate Research Assistantship at University of Nebraska-Lincoln — Summer 2020 to present
- Purdue Summer Undergraduate Research Fellowship — Summer 2017
- Rwanda Presidential Scholarship — Fall 2014-Spring 2018