Kaddy Marindi

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Personal Profile

I'm a final year Electrical engineering student at the University of Witwatersrand; I have completed all my coursework except for vac work (field-work). I am an aspiring software engineer with a passion for computing, computer networks, and distributed systems and enjoy working on Linux. My current personal — I see an opportunity to bridge the digital divide and improve SA education. I am looking for a job to grow my engineering skill and complete the requirements to graduate.

Education

University of Witwatersrand *Johannesburg, SA*

BSc. (Eng) in Electrical Engineering *Feb 2017 - 2021/Completion of vac work*

- Dean's list award (2017)
- **Courses:** Data Structure & Algorithms, Software Development 1-3, Data-Intensive Computing, Control 1-2, Micro-controllers, Electronics 1-2, Signals 1-2, Measurement, Maths Eng.

Sinthumele Secondary School *Limpopo, SA*

High School *Jan 2011 - Dec 2015*

- Passed with 5 Distinctions
- **Major:** Engineering Graphics and Design, Physical Sciences, Life Sciences, Maths.

Skills

Programming	C, C++, Javascript, HTML/CSS, Bash scripting, SQL.
Virtualisation tech	Hypervisosr (KVM/QUME and VirtualBox), Virtual networking, Cloud-Infrastructure (OpenStack).
Fundamentals	Computer Networking, Data-intensive computing, Distributed System, Systems Programming in Unix, Object Oriented Programming, Data structures & Algorithms.
Miscellaneous	OS (Unix/Linux), Chef, Makefile, Git.

Projects

Virtual-desktop computing (DaaS) for educational use *Limpopo, SA*

Personal Project *Aug 2022 - current*

- Wrote a project problem statement and a technical project proposal for the project.
- Setup the project Infrastructure; deploy Openstack in a controller and compute nodes in order to learn how OpenStack works.
- **Technical Skills:** OpenStack, Ansible, KVM/QEMU, Spice, Bash scripting, Linux.
- **Soft Skills:** Time Management, Report writing.

Web Server called Liso *Limpopo, SA*

Personal Project *May 2022 - June 2022*

- Liso is a concurrent web server implemented using Berkeley Socket API which support a subset of HTTP 1.1 request for Comment-RFC 2616. Liso also supports HTTPS via Transport Layer Security (TLS) — RFC 2818. Common Gateway Interface (CGI) as described in RFC 3875 is supported which allows simple implementation using a scripting language such as Python.
- This set of features forms the core of the Liso web server's capabilities
- perfomance matrix
- **Technical Skills:** C language, Berkeley Sockets API, Python scripting, Git

Parallel NEC2++ *Johannesburg, SA*

University of Witwatersrand *Sep 2021 - Nov 2021*

- Is a final-year project. The project object was to increase NEC2++ run time performance and simulatable structure size by parallelizing the code to run in distributed & shared memory architecture. Electromagnetic numerical code (NEC) is a C++ simulation software used for antenna design and analysis.
- Co-authored a project plan. In addition, I Investigated the code performance bottleneck and found that Matrix filling, LU decomposition and Matrix solve are the most computational operation.
- Setup NEC2++ development environment in multiple nodes cluster.
- Implemented parallel LU decomposition and matrix solve which improved NEC2++ performance by 4 times when running in 8 nodes.
- **Technical Skills:** C++, BLAS library, MPI, OpenMP, Linux, Slurm, Makefile, Git.
- **Soft Skills:** Teamwork, Presentation skills, Project Management, Report writing.

Languages

English	Professional proficiency
Tshivenda	Native proficiency

References available upon request.