Kaddy Marindi

South Africa, Louis Trichardt

(+27)79 989 5113 | kad.marindi@gmail.com | kaddy120.github.io | github.com/kaddy120

Personal Statement

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 and Systems 1-2, Measurement, Maths Eng 1-3, Probabilistic System and Signal analysis.

Sinthumele Secondary School   *Limpopo, SA*
High School   *Jan 2011 - Dec 2015*
- Passed with 5 Distinctions and obtained 97% in Mathematics.
- **Major:** Engineering Graphics and Design, Physical Sciences, Life Sciences, Maths.

Work Experience

DVT   *johannesburg, SA*
Software developer (Intern)   *Dec 2020 - Feb 2021*
- I designed and implemented a dynamic book auctioning website.
- I utilized Firebase, harnessing its real-time database capabilities and user authentication features. Using Firebase sped up the development and helped me meet my deadlines.
- **Technical Skills:** React.js, Javasscript, HTML, CSS, Firebase, Git.

Skills

Programming	Python, Javascript & TypeScript, HTML, CSS, C, C++, Reactjs
Fundamentals	OOP, Data Structure & Algorithms, Computer Networks, System Programming in Unix, Parallel programming.
Server-side programming	Nodejs, Expressjs, Apache, SQL, MongoDB.
Various	OS (Unix/Linux), Bash scripting, Git.

Projects

Parallel NEC2++   *Johannesburg, SA*
University of Witwatersrand   *Sep 2021 - Nov 2021*
- Is a final-year project for parallelizing NEC2++, which is a C++ version of Electromagnetic numerical code (NEC) simulation software used for antenna design and analysis. The project objective was to improve NEC2++ run time performance by parallelizing the code to run in distributed and shared memory infrastructure.
- Co-authored a project plan that facilitated our project implementation.
- Investigated the code performance bottleneck and found three computation-intensive operations that could be improved.
- 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.

Towards a COVID-19 model to inform healthcare policy   *Johannesburg, SA*
University of Witwatersrand   *Jul 2021 - Sep 2021*
- Is a data analysis and modelling project to identify COVID-19 critical tipping points (outbreaks) that can lead to a catastrophic failure that is costly in terms of human lives, and economic hardship.
- This project uses Python and Covid-19 real-time data to compute early warning signals that can predict an approaching critical tipping point.
- This project also models COVID-19 using a compartment model that can inform the government of the demand for hospital beds during the outbreak.
- The empirical study of this model is done using South Africa and Italy real-time data.
- The empirical study shows that the early warning signals used in this project can **give a signal 20 days prior to the outbreak**, giving the government enough time to implement corrective measures.
- **Technical Skills:** Python, CSV data.
- **Soft Skills:** Report writing.

Volunteer work

School of Electrical   *johannesburg, SA*

2nd year mentorship program   *March 2021 - Nov 2021*

- I volunteered to mentor four 2nd-year students studying Electrical Engineering who had difficulty coping with online-based learning and needed support and guidance.
- We met weakly for two hours via Teams.
- The mentorship program gave students a chance to know their fellow classmates and facilitated collaboration among them.

Interests

Linux I'm passionate about using Linux. Its customizable nature has enhanced my productivity, enabling me to streamline my work and significantly reduce mouse dependency through command-line usage, tiling window managers, and Vim.

Writing I recently **started blogging to enhance communication skills** and share insights about programming, Linux, and Vim. You can find my blogs at **https://kaddy120.github.io/blog.html**.

Persona site You can find more about my interest and personal projects, old and ongoing, on my **personal website**
.

Languages

English Professional proficiency

Tshivenda Native proficiency