

Joash Nicholas Naidoo

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Education

University of Cape Town, South Africa

Feb 2020 - Mar 2021

MSc(Eng) Electrical Engineering

-My thesis centered on characterizing the performance of a custom transceiver card built for the Large Hadron Collider upgrade at CERN under representative radiation conditions

-Research done in close collaboration with a German National Laboratory, Deutsches Elektronen-Synchrotron (DESY)

University of Cape Town, South Africa

Jan 2016 - Dec 2019

BSc(Eng) Electrical and Computer Engineering

-Completed in the minimum duration and with an average of 65%+ (second class honours)

Technical Skills

Programming: VHDL, C++, C#, Python, Typescript

Software & Tools: **Embedded:** Vivado Design Suite, LabVIEW

Scientific: Jupyter Notebook, Numpy, MATLAB, Simulink

Web: ASP.NET Core, Angular, PostgreSQL

Misc: GIT, CLI, BASH, Make

Operating Systems: GNU/Linux (Ubuntu), Windows

Hardware: Kintex7 KC705 Evaluation Board, Digilent Arty A7, Zynq 7Z007S, RPi 3B

Languages: English

Projects (All available in Github)

Personal Portfolio Website

- Website built with ASP.NET Core, Angular and PostgreSQL; deployed with Docker on Azure Web Services
- Website includes web apps and my write ups spanning a broad range of topics in computing
- Web apps include neural network, proof of work application and double pendulum physics simulation

FPGA Playground

- Growing collection of platform agnostic FPGA modules written in VHDL
- Modules include UART controller, 8-bit ALU, FIFO for crossing clock domains, Random Number Generator, Fibonacci sequence generator and more
- Modules are synthesised and simulated with GHDL and GTKWave respectively

BalenaOS for MiniZed Zynq development board

- I gained exposure developing custom embedded Linux for FPGA development board using the Yocto project and Vivado Design Suite

Work Experience

IDS Consultants, Bedfordview

Jan 2021 - Current

Software Developer

- Building enterprise web applications with ASP.NET Core, Angular, PostgreSQL and Microsoft Master Data Services

Publications

IEEE Nuclear Science Symposium & Medical Imaging Conference

2020

Recent Results from the first lpGBT-based prototype of the End-Of-Substructure card for the ATLAS ITk

- Elected to represent the ATLAS-DESY team with a poster presentation at the 27th international conference, Boston

Roles of Responsibility

National Student Representative for Engineers without Borders South Africa

Jan 2019 - Jan 2020

- Elected to manage the 9 EWB university chapters across the country and represent them on the EWBSA board