JOYEN BENITTO

[Building Innovative CPU Cores for a New Era of Computing]
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WHAT I BRING TO THE TABLE

As a third-year electronics and communication student with a keen interest in computer architecture and RISC-V, I bring a solid technical foundation, a positive and optimistic mindset, excellent teamwork skills, and a proactive approach to problem-solving. I am confident that my skills and attitude would make a valuable contribution to any team or project focused on computer architecture and RISC-V.

EDUCATION

PES University *(Electronics and Communication Engineering)* *Expected Jul'24*
Responsibilities: Club lead of Google Developer Student Club, Head of Silicon & Finance Head of Maaya'22
Workshops Conducted: Programming with C, Linkers and Loaders, Coolio with CUDA

Ryan International School *(Computer Science)* *Jul'12– Jul'20*

PROJECT

Diablo(Ongoing)
*The above project involved designing a **RISC-V CPU Core RV64I** with 5 stage pipeline and cache optimizations. The whole core is designed, synthesised, and simulated in Vivado using system Verilog and verified using Cocotb. The end goal is to run a linux OS in the core.*

Home Automation using STM32 NUCLEO F401RE (ARM Cortex M4) development board
*This project is about the implementation of control unit which controls other smart objects that can be used to build a smart home ecosystem. The board is based on an **ARM Cortex M4 processor** and **FreeRTOS**, the real time operating system. The development was done in **the STM32 cube IDE** using **HAL** (Hardware abstraction language) **C**.*

A highly parallel N X N Matrix multiplier using CUDA
The project involves writing **CUDA** code that multiplies two large matrix and stores the result in another resultant matrix. The main goal of the project was to pick the optimal number of blocks and number of threads that best utilizes the computational resources in a Nvidia 1650 GPU.

SKILLS & TOOLS

- RISC V| 8051| 8055
- RTOS (FreeRTOS)
- System Verilog| TL – Verilog
- Machine Learning
- High Level Synthesis
- C programming| Python
- CUDA

LICENSES & CERTIFICATIONS

- Building a RISC-V CPU Core – The Linux Foundation
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning – DeepLearning.AI
- Supervised Machine Learning: Regression and Classification – Stanford Online
- Fundamentals of Quantitative Modelling – Wharton Online
- The Complete C programming Bootcamp – Udemy (Byte Garage)

*All the certificates and licenses credentials and details are available in **LinkedIn.***

HACKATHONS

Ingenious Hackathon *(TOP-3) – In the hackathon we developed a solution to detect driver drowsiness using a dashboard camera and alert the driver, and on no response generate a signal which will pass the control to the vehicle autopilot.*
***Hallothon Hackathon** (TOP-5) – In the hackathon we developed a Two Wheel Antitheft system which detects and prevents two-wheel vehicle theft with ESP32.*
***Hacknite** (TOP-3)- The above event was a subset of Hacktober fest held in PES University It involved solving bugs and adding features in different open-source projects.*