JOSEPH JUNIOR MENSAH

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EDUCATION

Cornell University – Ithaca, New York, USA   Graduating May 2028
Bachelor of Science, Electrical & Computer Engineering

Relevant Coursework: *Data Structures and Algorithms, *Object Oriented Programming, *Digital Systems Design, *Computer Organization and Architecture, *Introduction to VLSI, *Linear Electronics, *Digital Signal Processing, *Computer Networking, *Introduction to MatLab and Labview   (* = *Self studied*)

EXPERIENCE

Computer Architecture and Programming Abstractions Lab - Cornell University   Starting October 2024
Undergraduate Research Assistant (under the supervision of Kevin Laeufer)

Connected Devices Lab – Kumasi, Ghana   Aug 2023 - June 2024
Research Assistant (under the supervision of Professor Kwame Osei Boateng)
- Worked with Programmable Logic Devices (PLDs) and Field Programmable Gate Arrays (FPGAs) to implement complex digital systems
- Utilised Xilinx ISE for simulation and synthesis of digital designs

PROJECTS

Design and Implementation at the RTL Level: A Reverse Converter for a Residual Number System based on the moduli set $2^n - 1, 2^n, 2^n + 1$ [[Research Poster](#)] | VHDL
- Built an efficient converter for reverse conversion based on the special moduli set $\{2^n-1, 2^n, 2^n+1\}$ using a modified Chinese Remainder Theorem (CRT) method.
- Designed the Datapath and Control unit, implemented the design in VHDL using Xilinx ISE, created a test bench, and implemented it on a Spartan 3 FPGA.

Project ReL (Remote Learning) - Lead | WordPress   **projectrel.org**
- Mobile-responsive website hosting recorded lessons and articles for the deaf and hearing impaired students in Ghana. Currently serves about 100 students.
- Implemented user validation, authentication, an admin panel, and a social network for reviews.

Bank Ticketing Application | Python, Tkinter   **[Project Link](#)** [[Demo](#)]
- Developed a bank ticketing application using Python and Tkinter for GUI to optimize customer service time in a bank setting.
- Managed customer information, ensuring efficient handling of admin operations and customer data.
- Integrated teller services within the system for streamlined customer service and task management.

HACKATHONS

Code Day, Summer 2022 - [Go Kart](#)
- Built a game using C and Unity to cross checkpoints while avoiding obstacles in a specified time
- Won [Best In Class (Game Development)](#)

Code Day, Spring 2023 - [Amigos](#)
- Worked in a team of 5 to develop chat app using Flutter integrated with firebase that also has games, generated jokes and cat facts for cat lovers (Won [Best In Class (App Development)](#))

SKILLS

- **Programming languages**: Python, C, C++, VHDL, Verilog, MATLAB, Rust
- **Worked with**: Linux, Cadence Virtuoso, Xilinx, Git, LTSpice OpenGL, AWS, PostgreSQL, WordPress

CAMPUS INVOLVEMENTS

- **National Society of Black Engineers**, *Secretary*, Cornell University, Fall 2024
- **Institute of Electrical & Electronics Engineers (IEEE)**, *Member*, Fall 2024