Chinedu Johnson Umeike

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Education

- **University of Kansas** — Lawrence, KS
  MS in Computer Engineering & PhD in Computer Science; GPA: 4.00 (as at Spring 2023) — *Jan 2022 - May 2027*
  Courses: Operating Systems, Analysis Of Algorithms, Advanced Computer Architecture, Algorithms for High-performance Computing, Probability and Statistics for Engineers, and Modern Computer Architecture.
- **Federal University of Technology Owerri** — Imo, Nigeria
  B.Eng. Electronics and Computer Engineering; GPA: 4.43/5.0 — *Nov 2011 - Dec 2016*

Skills Summary

- **Languages**: C++, Python, IBM Qiskit, C, Bash scripting
- **Tools**: Docker, Intel vTune, QEMU, perf, gem5, FireSim, ChipYard, McPAT, Git, LaTeX, Vivado, Office suites, XCode

Experience

- **Architecture Research Group (KU)** — Lawrence, Kansas
  Graduate Research Assistant - Dr. Mohammad Alian — *Aug 2022 - Current*
  - **Profiling gem5 Simulator, ISPASS 2023**:
    - Performed detailed microarchitectural analysis on Intel and M1 chips for optimizing the performance of software architectural simulators.
    - Conducted extensive research on the effects of system configuration changes on simulation time. Worked with transparent and explicit huge pages for reducing iTLB overhead in Intel-based servers.
    - Worked with gem5, FireSim, ChipYard, Intel vTune, Intel iodlr, Intel RDT as well as other profiling tools for identifying the bottlenecks in a state-of-the-art architectural simulator. First to execute gem5 as a workload on another FPGA-Accelerated simulator (FireSim) to evaluate its performance.
    - Selected as part of the top 15 participants for the MICRO 2022 ACM Student Research Competition. Presented my poster at the conference.
    - This research led to a peer-reviewed publication for the just concluded ISPASS 2023 conference in North Carolina.
    - Selected as part of the top 9 participants to present a talk in the FireSim/Chipyard users and developers workshop at ASPLOS 2023 in Canada.
  - **Device-less Networking**:
    - worked with a gem5 implementation of the Intelś Data Plane Development Kit (DPDK). Simulated packet transfer between a load generator and NIC to identify maximum sustainable bandwidth.
    - Explored efficient processor design for efficient I/O performance in a datacenter network. Collaboratively researched OS-bypassing techniques, and custom NIC designs for low latency and high throughput.
    - Participating in JUMP2.0 project which will drive long-term pathfinding university research that substantially increases the performance, efficiency, and capabilities of broad classes of electronics systems for both commercial and military applications..
- **University of Kansas** — Kansas, USA
  Graduate Teaching Assistant — *Jan 2022 - August 2022*
  - **Python Programming**:
    - Taught Python programming lab sessions in Spring (EECS 138) & Summer (EECS 168). Graded lab assignments, and problem sets, and carried out any other tasks assigned to me by the course instructors.
    - Provided guidance to students on homework and assignments. Held office hours to support students on the content of the course.
    - Ensured my tasks were completed on time. Went out of my way on two occasions to help a teammate in grading her studentś work when she wasnt́ feeling well. These led to my being recommended for the summer teaching assistant position with the department.
- **MainOne Cable Company (An Equinix Company)** — Lagos, Nigeria
  Network Solutions Architect — *March 2019 - Jan 2022*
  - **Software-Defined Networking**:
    - Selected as part of a 4-man team to oversee a company-wide project on the implementation of SD-WAN in a service provider network.
    - Evaluated Surenet Technology Limited's Helix platform, a Layer 2 Network as a Service (NaaS) solution which is based on Multi Service Tunnel Network technology (MSTNT), its pros, cons, and how it can be deployed in a service provider network.

- **Oil & Gas Solutions**:
  - Designed Addax Petroleum Nig. IT infrastructure migration technical solution into MainOneś Lekki Data Center. I was instrumental in closing the deal by providing an articulate technical proposal for the service delivery. This involved movement of about 5 racks and a satellite station, as well as the provision of dual fiber last mile to the customer's new location. Developed detailed technical documentation to manage this project.
  - Served as Technical Solution team's representative in the company-wide project for the deployment of a new point-of-presence in Bonny Island with over 30km of terrestrial fiber cable. This project led to an increase in revenue for the Oil & Gas section of the business and the onboarding of new customers like NLNG, SAIPEM, etc.
  - Provided technical and business consultative leadership throughout the technical life cycle of technical solutions (Internet, L2/L3 MPLS, Managed Wi-Fi, Datacenter Colocation, VoIP, etc
  - Worked with various technologies such as GPON, VoIP, MetroEthernet, SDH, SDWAN, MPLS VPN, Fiber Optics, MW radio, Satellite, and some networking protocols.
  - Provided support to the project management team, as well as account managers during customer engagement meetings. Ensured I provided a relevant technical description to help potential customers make their decision.
  - prepared technical bid documents for various companies. Achieved a bid acceptance rate of about 65%. This earned me commendation from my bosses and CEO, and ultimately promotion within the company.

Academic Projects

- **Quash**: Developed Quite-A-shell (Quash) using C++ that implemented many functionalities of bash. Also, incorporated pthread library to support background jobs. (Nov '22)
- **Solar-powered Three-Wheeler**: Was part of a team that implemented the conversion of an ICE vehicle to solar power for energy conservation and reduction in global warming. (Nov '16)

Certifications

- Supervised Machine Learning: Regression and Classification – Coursera (in view) - May 2023
- Qubit by Qubit's Quantum Computing Course by IBM - April 2023
- Certificate of Recognition for Participation in the ACM Student Research Competition - October 2022
- Google IT Professional Certificate (LTGXRQYGCB35) – Coursera - August 2022
- Data Structures (K5KTHRMP5JBC) – Coursera - November 2021
- Algorithmic Toolbox (95QHNMTWUKVG) – Coursera - October 2021
- Introduction to Graph Theory (PSK35ST3825A) – Coursera - September 2021
- Combinatorics and Probability (C735L7NR3YAZ) – Coursera - September 2021
- Mathematical thinking in computer science (DX5JUXSMMJEX) – Coursera - August 2021

Honors and Awards

- NNPC/Mobil Unlimited Scholarship February, 2013 - December, 2016.
- The Fountain of Life Church Scholarship Award Dec 2012
- Ranked top 1% in WAEC result among a batch of ∼100 students at High School Level 2011