

OWOICHO EMMANUEL, IJIGA

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EDUCATION

MBA Master of Business Administration (CGPA: 3.76/4.00)

Sept. 2021 – June 2023

University of California, Riverside.

Specialty: Information Systems and Operations & Supply Chain Management

PhD (Eng) Computer Engineering

Jan. 2018 – April 2021

University of Pretoria, Pretoria.

Thesis: SDN-based Adaptive Data-enabled Channel Estimation in the Internet of Maritime Things for QoS Enhancement in Nautical Radio Networks

Specialty: “Advanced Wireless Sensor Networks (AWSN)”

<https://repository.up.ac.za/handle/2263/78709>

M. Sc (Eng) Electrical/Information Engineering

Jan. 2015 – Dec., 2017

University of the Witwatersrand, Johannesburg.

Dissertation: Channel Estimation Techniques for Filter Bank multicarrier based Transceivers for Next Generation of Wireless Networks

Specialty: “Electrical and Information Engineering”

Thesis Link:

http://wiredspace.wits.ac.za/bitstream/handle/10539/25529/Final_Dissertation.pdf?sequence=1&isAllowed=y

B. Eng (Hons) Electronic Engineering

Jan. 2014 – Dec., 2014

University of Pretoria, Pretoria.

Key Modules: Introduction to Research, Digital Communications, Coding Theory and Wireless Sensor Networks.

Specialty: “Telecommunication Engineering and Signal Processing”

B. Eng Electrical/Electronic Engineering (CGPA: 4.43/5.00)

Nov. 2006 – Nov., 2011

Federal University of Agriculture, Makurdi.

Research Project: Design and Construction of an FM Radio Receiver

PROFESSIONAL EXPERIENCE

Founder & CEO.

(Jun. 2024 – Till Date)

Ajumi Networks, Ithaca, New York, USA.

- Define and implement the company's long-term vision, focusing on delivering cutting-edge telecommunications and software engineering solutions that address the evolving needs of underserved communities.
- Manage the planning and execution of large-scale fiber optic network deployments, ensuring high-speed, reliable internet access to rural and underserved areas.
- Collaborate with key partners such as FiberSpark and Southern Tier Network to expand broadband infrastructure.
- Oversee financial planning, including budgeting and securing funding opportunities, to ensure the company's profitability and long-term sustainability.
- Lead marketing and public relations efforts to establish Ajumi Networks as a trusted provider in the telecommunications sector, highlighting successful projects and partnerships that demonstrate the company's impact on community connectivity.

Vice President of Operations & Strategy.

(Dec. 2023 – April. 2025)

Fiberspark Inc., Ithaca, New York, USA.

- Spearhead strategic planning initiatives to drive operational efficiency, market expansion, and long-term growth, while ensuring alignment with company objectives and industry trends.
- Collaborate with the CEO to identify and capitalize on new business opportunities, ensuring competitive advantage and sustainable revenue growth.
- Oversee the day-to-day operations, managing cross-functional teams across engineering, marketing, and sales to optimize processes, performance, and customer satisfaction.
- Develop and implement data-driven strategies to enhance operational workflows, streamline supply chain management, and improve service delivery.

Brand Representative.

(Jul. 2023 – Sept. 2023)

Instep Management/Frontier Communications, Ontario, CA, USA.

- Recommended cutting-edge optical fiber internet solutions with enhanced security, exceptional high data rates, and reliability, to needy residents in Southern California (SoCal), across cities like Norwalk, Whittier, Chino, Monrovia, Clemont, etc.
- Managed outbound client campaigns, identifying decision-makers of key sales accounts, and schedule installation dates.
- Proposed AT&T's Direct TV packages (Entertainment, Choice, Ultimate, and Premium) to meet the cable needs of Clients.
- Provided mentorship to new team members while recommending efficient promotional strategies to organizational management.

Web Developer Intern.

(Sep. 2022 – Dec. 2022)

Cyber Chasse Inc, Tampa, Florida, USA.

- Designed and built the website's front-end & back-end (WordPress & PHP).
- Created the website architecture.
- Designed and managed the website back-end including database and server integration.
- Generated custom WordPress themes and plugins.
- Conducted website performance tests.
- Troubleshooted content issues.
- Conducted WordPress training with the content writer.
- Monitored the performance of the live website.

Graduate Teaching Assistant

(Sep. 2021 – Till date)

University of California, Riverside, California, USA, Department of Physics and Astronomy.

- Coordination of module practicals, and consultations (office) hours for needy students
- Marking, continuous and formative assessment evaluation (prelabs, quizzes, lab reports, lab skill assessment).
- Module involved is PHYS 040C (General Physics). It involves coordinating the learning processes of over 40 students in the Department of Science and Engineering.

Graduate Engineer Trainee

(Jun. 2021 – Aug. 2021)

Optic-Copper Network Solutions, Pretoria, South Africa.

- To build, resolve, repair, and install fiber optics links for businesses, homes, schools, and other entities across the Gauteng Province of South Africa, while ensuring that the installation works properly through fiber testing.
- Daily optic fiber network maintenance in addition to troubleshooting/replacement of broken fiber optic cables in the built/maintained fiber network using fusion fiber splicing technique.
- Execute premises cabling and take care of the underground and underwater cabling requirements
- Formulation and maintenance of system records, risk assessment analysis, diagrams, schematics and other system designs in relation to the network installation and splicing.

Training Facilitator/ Assessor

(Jan. 2021 – May 2021)

Quarphix Corporation, Johannesburg, South Africa.

- Facilitation, training and the achievement of learning outcomes.
- Ensure learners are conversant with each unit standard
- Keep detailed logbooks, registers, or activity sheets for training-based activities
- Counsel learners when necessary and provide detailed feedback to learners with regards to their individual progress reports submitted as per the clients' needs,
- Assessment of the achievement of learning outcomes.

- Conduct the full and complete assessment of learner assignments and provide feedback.
- Evaluate, authenticate and judge the evidence by making an assessment decision, (i.e. competent, or not yet competent) and recommendations for the award of the qualification to the learner.
- Forward the results to the relevant ETQA's for certification.
- Submit assessed and remediated PoE's to the Client, ready for moderation

Assistant Lecturer (Module Administrator)

(Feb. 2014 – Dec. 2014) & (Mar. 2018 – Oct. 2020)

University of Pretoria, South Africa, Department of Electrical/Electronic/Computer Engineering/ ENGAGE.

- Conducted tutorials, consultations (office hours) and practical sessions.
- Design of laboratory practical information guide, and coordination of laboratory experiments.
- Marking, continuous and formative assessment evaluation (marked tests, reports, exams and assignments).

Module involved is EBN 111 and EBN 112 (Electricity and Electronics). WTW 256 (Differential Equations) and JPO 125 (Additional Mechanics), ESC 320 (Stochastic Communication Systems). It involves coordinating the learning processes of over 900 (EBN 111) and 700 (EBN 122) students from the Faculty of Engineering, Built Environment and information Technology (EBIT).

Teaching Assistant

(Feb. 2015 – Dec. 2017)

University of the Witwatersrand, Johannesburg, South Africa, School of Electrical/Information Engineering.

- Conducted tutorials, consultation and practical sessions.
- Marking, continuous and formative assessment evaluation (marked tests, reports, exams and assignments).

Modules involved include: ELEN 2006 (Microprocessors), ELEN 3013 (Signal & Systems II B), SCMD 1003 (Health System Dynamics I), ELEN 3024 (Communication Fundamentals), ELEN 2004 (Software Development I) and ELEN 4017 (Network Fundamentals).

Independent Contractor

(Mar. 2017 – Apr. 2019)

EDUCOR (INTEC/Demalin College), South Africa.

- Served as an examiner, grader and moderator for over 40 technical and engineering modules.

National Youth Service Corp Member

(Mar. 2007 – Feb. 2008)

Anglican Junior Seminary, Jimeta Yola, Nigeria.

- Conducted tutorials, consultation and practical laboratory sections in Physics and Further Mathematics.
- Marking, continuous and formative assessment evaluation (marked tests, reports, exams and assignments).

Keek Computers Ltd, Makurdi, Nigeria.

- Installation of software and routine hardware configuration, as well as software updates for compatibility.
- Networking of Computer Peripherals for Internet Connectivity purposes.
- Troubleshooting of LAN/WAN technologies
- Trainee support of application packages, Internet and general computer systems.

Students Industrial Work Experience Scheme (SIWES)

(Jun. 2010 – Jan. 2011)

Motak Nigeria Limited, Lagos, Nigeria

- High, medium and low voltage electrical installation.

RELEVANT SOFTWARE KNOWLEDGE

MATLAB, Python, R Programming, Tableau, Microsoft Office, Latex, Multisim, PSPice.

Certified with IBM Skills Network certificate for Python for Data Science, AI & Development offered through Coursera

PROFESSIONAL MEMBERSHIPS

- South African Institute of Electrical Engineers (SAIEE), [Student Membership No: 14435].
- Institute of Electrical and Electronics Engineers, (IEEE), [Student Membership No: 93318030].
- Engineering Council of South Africa, (ECSA), [Candidate Engineer Registration No: 201550443].
- Media, Information and Communication Technologies Sector Education and Training Authority (MICT-SETA), [Assessor and Moderator Registration No.: RAS/07/2019/0109 and RMD/07/2019/0052].

AWARDS AND SCHOLARSHIPS

- Rewarded with the A. Gary Anderson Graduate School of Management Award by the School of Business Administration, University of California, Riverside (for the years 2021 - 2023).
- Rewarded with the Doctor of Philosophy *Academic Honorary Colours* by the Academic Affairs Council (Student Representative Council) of the University of Pretoria (April 2021).
- Rewarded with the South African National Research Foundation/Research and Innovation Support and Advancement (NRF/RISA) Award
- Volunteer service Award, 2019 IEEE Vehicular Technology Society (VTS) Wireless Africa Conference, Pretoria.
- Rewarded with the University of Pretoria Doctoral Research Grant (for the year 2018, 2019 and 2020).
- Rewarded with the Advanced Sensor Networks (ASN), Centre for Connected Intelligence (CCI) Award, University of Pretoria (For the year 2020).
- Rewarded with the Wits University Postgraduate Merit Award (PMA) (for year 2015 & 2016).

- Rewarded with the “Center of Excellence for Telecommunication Access and Services (CETAS)” merit award to investigate waveform designs and channel estimation Schemes for the emerging 5G Networks and also for Non-Contiguous Orthogonal Frequency Division Multiplexing (NC-OFDM) based transceivers (for year 2015 & 2016).

RESEARCH INTERESTS

- Channel Estimation Techniques for Filter Bank Multicarrier Systems.
- Next generation (5G) Internet of things for Maritime and Agricultural Applications.
- Optimization in Wireless Sensor Networks.
- Channel Estimation Techniques for Non – Contiguous OFDM Based Transceivers.
- Business Administration

SHORT COURSES

- Huawei training for emerging 5G communication technologies in South African Universities, May, 2019 (SA IEEE ComSoc & University of Pretoria).
- Marking Skills Training for Teaching Assistants, 2019 (Department for Education Innovation, University of Pretoria).
- Conduct Outcomes Based Assessment - SAQA ID: 115753 NQF level 05 (15 credits) 2018 (REATS Training Services, South-Africa)
- Conduct Moderation of Outcome Based Assessment- SAQA ID: 115759 NQF level 06 (10 credits) 2018 (REATS Training Services, South-Africa)

ACADEMIC PUBLICATIONS

Journal Articles

1. O. E. Ijiga, R. Malekian and U. A. K. Chude-Okonkwo, "Reweighted Error Reducing Channel Estimator for QoS Enhancement in Wireless Nautical Radio Networks," in *IEEE Access*, vol. 9, pp. 140325-140348, 2021.

<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9558768>

2. **O. E. Ijiga**, O. O. Ogundile, A. D. Familua and D. J. J. Versfeld “Review of Channel Estimation for Candidate waveforms of Next Generation (5G) Networks”, *MDPI Electronics Microwave and Wireless Communications issue on 5G Front-End Transcievers* , vol. 8, no. 9, p. 956, Sept. 2019.

<https://www.mdpi.com/2079-9292/8/9/956>

3. **O. E. Ijiga**,; Malekian, R.; Chude-Okonkwo, U.A.K. Enabling Emergent Configurations in the Industrial Internet of Things for Oil and Gas Explorations: A Survey. *Electronics* **2020**, 9, 1306.

<https://www.mdpi.com/2079-9292/9/8/1306>

4. O. O. Ogundile, **O. E. Ijiga** and D. J. J Versfeld, “On the Analysis of Reed–Solomon Codes for OFDM Systems over Rician Fading Channels”, *Africa Research Journal of the South African Institute of Electrical Engineers*, (ARJ–SAIEE), vol. 108, no. 3, pp. 108 – 116, Sept. 2017.

<https://www.saiee.org.za/DirectoryDisplay/AfricaResearchJournalArticle.aspx?ArjJournalListingId=8608>

5. O. O. Ogundile, M. B. Balogun, **O. E. Ijiga** and E. O. Falayi, “Energy-balanced and energy-efficient clustering routing protocol for wireless sensor networks,” in *IET Communications*, vol. 13, no. 10, pp. 1449-1457, 12 Mar., 2019.

<https://ietresearch.onlinelibrary.wiley.com/doi/epdf/10.1049/iet-com.2018.6163>

6. **O. E. Ijiga**, O.O. Ogundile, G. A. Akpakwu, and M. O. Oloyede, “Analysis of Block Type Channel Estimation Techniques for NC-OFDM Transceiver over Frequency Selective Rayleigh Fading Channel”, *International Journal of Information Processing and Communication (IJIPC)*, vol. 7 no. 1, pp. 27 – 38, May 2019.

<https://ijipc.com.ng/index.php/ijipc/article/view/239/150>

International Conference Proceedings

7. E. Botha, R. Malekian and **O. E. Ijiga**, “IoT in Agriculture: Enhanced Throughput in South African Farming Applications,” *2019 IEEE 2nd Wireless Africa Conference (WAC)*, Pretoria, South Africa, 2019, pp. 1-5.

<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8843423>

VOLUNTARY (UNPAID) ACADEMIC DUTIES

Multiple Contingent Volunteer.

(Sep. 2022 – Jun. 2023)

International Students and Scholars Department, University of California, Riverside (UCR), USA.

- Establishing a healthy connection (in a conservative estimate of one full academic year) with at least three first year MBA graduate students (or mentees) studying at the UCR School of Business.
- The connection and commitment involves inspiring and guiding the mentees through achieving successes in their academic obligations, creating network connections for mentees and guiding them towards job hunting.
- Connecting with mentees in person or online on a weekly/bi-weekly, or as needed basis for 30 minutes.
- Help mentees to leverage available resources on and off-campus for their professional development.
- Attend the Graduate Mentor Orientation.
- Meet with the Educational Advisor at the end of the undergraduate Spring quarter and complete a program evaluation..

Peer Reviewer/Expert Examiner.

(Jan. 2018 – Jun. 2022)

Academic Journal Publishers for comperporary research development in Electronic and Computer Engineering.

- Reviewer for IEEE Transactions on Industrial informatics
- Reviewer for IEEE Transactions on Vehicular Technology
- Reviewer for IEEE Access Journal
- Reviewer for Jordanian Journal of Computers and Information Technology

LEADERSHIP EXPERIENCE

- Music Director, Association of Catholic Tertiary Students (ACTS), University of Pretoria (Jan. 2018 - Aug. 2018).
- Co-conductor, Wits University Holy Trinity Student Choir, Braamfontein, Johannesburg (Feb. 2015 – Dec. 2017)
- Chairperson, Wits University West Campus Village Postgraduate Residence Committee (2016).
- President, Emergency Management Vanguard (EMV), (NEMA/NYSC) Community Development Service (CDS) Group, Adamawa State, Nigeria (2012/2013 Batch C).

HOBBIES

Reading, Football and Travelling

REFEREES

Available on request