DR. IKECHI SAVIOUR IGBOANUSI

I would say my most distinguishing attribute is resilience. Pursuing my dream of having international graduate education is a process that took 5 years to actualize. Then switching from Physics to IT was a major change, and as if that was not enough, I was the first person in my research lab to focus on blockchain as an area of interest. It was extremely hard to be the only one who worked on this technology for about a year and half before having a breakthrough, with my design of the first working offline architecture for blockchain transactions. I hope to apply this attribute of resilience as I continue to grow and develop myself in this blockchain career path.
In summary I do not give up on anything I believe in, and I believe in blockchain.

CONTACT

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PERSONAL WEBSITE
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SOFTWARE SKILLS

- Solidity Language
- Smart Contract Development
- Ethereum Virtual Machine
- Blockchain Decentralized Application (Dapp)
- Cryptocurrency development (ERC 20)
- Non-Fungible token development (ERC 721)
- Blockchain Mining
- Cryptocurrency investment and trading
- Private Blockchain Network Deployment
- Consensus Algorithms Modification
- Cryptography
- Android and iOS Development
- JavaScript
- Dart Language (Flutter)
- Python
- SQL
- R language for big data analytics

EDUCATION

Ph.D. / IT Convergence Engineering,
Kumoh National Institute of Technology
Mar 2020 – Aug 2022.

Masters / IT Convergence Engineering,
Kumoh National Institute of Technology,
Mar 2018 – Feb 2020.

Bachelors / Physics,
Federal University of Technology Owerri,
Oct 2008 – Dec 2013.

WORK EXPERIENCE

Postdoctoral Blockchain Lead (Sept 2022 – date)
ICT Convergence Research Center / Gumi, South Korea
- Managing a team of developers and researchers to create a commercial blockchain platform for offline transactions.
- Supervising members' work and training new members of the blockchain team.
- Developing blockchain architectures for future projects and their implementation.

Blockchain Research and Development (March 2020 – August 2022)
Networked Systems Lab / Gumi, South Korea
- Researched blockchain for offline transactions and designed an architecture.
- Led a team of researchers to implement the first know offline blockchain transaction algorithm known as Pure Wallet.
- Researched efficient automatic mining for blockchain networks.

Networks Research (March 2018 - Feb 2020)
Networked Systems Lab / Gumi, South Korea
- Researched secure communication networks for military logistics.
- Researched and developed models for network load balancing in industrial networks.
- Recorded findings and made paper publications.

Electrical and Electronics Technician (Oct 2017 – Feb 2018)
EMI Systems / Abuja, Nigeria
- Installation of security electronic gadgets.
- Programming of micro controllers.

HARDWARE SKILLS

- Effective use of cable comb to ensure neat arrangement of connection wires.
- Use of cable ties.
- Use of network toner and probe to trace network cables.
- Vital bookkeeping skill which is necessary for wire labeling.
- Use of cable reels, shears, and stripping tools.
- Efficient use of drilling machines and use of the proper bit.
- Use of Panduit termination tool.
- Efficient in the use of RJ45, RJ11, and RJ22 clippers.
- Good with cat5, cat5e, cat6, and cat6a stripping and termination.
- Installation of cat 5, cat5e, cat6, and cat6a to a wall socket.
- Knowledge of AC and DC circuits
- Applied mathematics and problem-solving analysis.
- Wireless access point installation, such as Wi-Fi routers, USB Wi-Fi and Bluetooth.
- I read equipment manuals of new products to know their dynamics.
- Television cable and satellite installations.
- General CCTV camera and spy camera installation.
- Door access control installation.
- Security alarm installation.
- Doorbells installation.
- Wired and wireless computer networking.

OTHER COMPUTER SKILLS

- Familiar with Windows, Mac, and Linux Operating Systems
- Microsoft Office
- Latex
- Computer operating system installation
- Computer cloning and data migration
- Ram and storage installation and upgrade
- Network computer software such as Solarwinds networks performance monitor
- Wireshark
- Team viewer
- Anydesk
- MATLAB and basic Simulink
- OPNET for network simulation

WORK EXPERIENCE CONT.

Farm/Technical Manager (Aug 2016 to Aug 2017)
Veronica Farm / Imo State, Nigeria
- Managing the running of the farm.
- Offering general technical services for smooth operation of the farm, like electrical, mechanical, plumbing etc.
- Coordinate the payment of wages.
- Coordinate the marketing and sales of farm produce.

Classroom Teacher (June 2015 to April 2016)
Government Girls Day Secondary Hadejia / Jigawa Nigeria
- Taught Physics in senior secondary classes.
- Set examination questions and supervise examinations.
- Grade examinations.
- As the leader of one of the schoolhouses, I coordinated the house during competitions
- Organized quiz competitions within and outside the school

BLOCKCHAIN PROJECTS

Project name: Layer 2 solution (Lead)
Sponsoring company Name: NSLab Corporation
Sponsoring company Address: Gumi, South Korea
Brief description: Development of a scalable layer 2 blockchain, based on EVM architecture that offers a near real-time transaction execution while maintaining security comparable with the public Ethereum mainnet. (On going)

Project name: Medical Data Security (Member)
Sponsoring company Name: Johnson & Johnson
Sponsoring company Address: U.S.A.
Brief description: This project involves the use of deep learning AI model to analyze medical records and save them on blockchain network, which provides security and transparency while still maintain privacy. (On going)

Project name: Pure Wallet (Lead)
Sponsoring company Name: Meta Monkey AI
Sponsoring company Address: San Francisco, U.S.A.
Brief description: Development of blockchain solution for offline transaction. This enables a secure transfer of crypto currency without the instant connection to the internet. (completed)

Project name: Winex (Member)
Sponsoring company Name: Balance Pole
Sponsoring company Address: Seoul, South Korea
Brief description: This project is to develop an NFT trading platform for sells of rare Wine collections in the form of NFT. Ownership of NFT wines can be verified electronically. (Completed)

Project name: Automatic Mining (Lead)
Sponsoring company Name: NSLab Corporation
Sponsoring company Address: Gumi, South Korea
Brief description: Development of an energy aware mining model to minimize the use of unnecessary power and storage resources. (Completed)

Project name: NFT Rental (Member)
Sponsoring company Name: Balance Pole
Sponsoring company Address: Seoul, South Korea
Brief description: A development of an NFT renting platform, that does not require a collateral to borrow an NFT, while maintaining security of the asset. (Completed)

BLOCKCHAIN TRANINGS

- Blockchain Developer Bootcamp (Dapp University)
- Certified NFT Expert (Blockchain Council)
- Create a private Ethereum blockchain with IoT devices (ChainSkills)
- Ethereum and Solidity: The Complete Developer's Guide (Udemy)
- Ethereum Blockchain Developer Bootcamp with Solidity (Udemy)
- Blockchain Scaling Solutions (Udemy)
- Blockchain/Ethereum from scratch by Matt Thomas (Youtube)
- Learn JavaScript (Codecademy)
- Flutter Tutorial for Beginners (Youtube)
- Solidity Smart Contract with Flutter App (Youtube)

LEADERSHIP EXPERIENCE

- Project leader: I led the blockchain team in Networked System Lab from March 2020 to July 2022. I was responsible for the training of all members of the project team. Along with blockchain, I also led a 3D monitoring project 2020- 2021. In this position, I was responsible for coordinating the activity of the project members to achieve 3D monitoring for Conception Company.
- President: I served as president of the St. Vincent de Paul FUTO conference for one year (2010-2011). In this position, I organized meetings, organized charity, and social activities, and represented the conference in higher council meetings.
- Treasurer: I served as treasurer of the IEEE student branch FUTO from 2011-2012. In this position, I oversaw the fund for practical and tutorials.
- Public relations Officer (PRO): I served as PRO of the Catholic Youth Organization of Nigeria (CYON), from 2013-2016. In this position, I was responsible for the circulation of information among members, and society activity to the public.
- Secretary: I served as secretary of the Agro-allied Community Development Society (CDS) during my National Youth Service Corp (NYSC) 2015-2016. In this position, I was responsible for keeping a record of the society's discussions and activities.
- Provost: I served as the provost of station CYON from 2016-2018. In this position, I was responsible for maintaining peace and order during youth activities. I have also headed many committees to achieve their various goals.

PUBLICATIONS

1. **Ikechi Saviour Igboanusi**, Allwinnaldo, Revin Naufal Alief, Muhammad Rasyid Redha Ansori, Jae-Min Lee, Dong-Seong Kim. Smart Auto Mining (SAM) for Industrial IoT Blockchain Network. IET Communications Journals, 2022.
2. **Ikechi Saviour Igboanusi**, Kevin Putra Dirgantoro Jae-Min Lee and Dong-Seong Kim, "Blockchain Side Implementation of Pure Wallet (PW): An Offline Transaction Architecture", ICT Express Journal, 2021.
3. **Ikechi Saviour Igboanusi**, Allwinnaldo Revin Naufal Alief, Muhammad Rasyid Redha Ansori,, Jae-Min Lee, Dong-Seong Kim, "Ethereum Based Storage Aware Mining for Permissioned Blockchain Network," The13th International Conference on Ubiquitous and Future Networks (ICUFN 2022) July 5 (Tue.) 8 (Fri.), 2022, Barcelona,Spain. 2022, pp. 161-166, doi: 10.1109/ICUFN55119.2022.9829669.
4. **Ikechi Saviour Igboanusi**, Revin Naufal Alief, Muhammad Rasyid Redha Ansori, Allwinnaldo, Jae-Min Lee, Dong-Seong Kim, "Pure Voting (PV): An Offline Voting Algorithm," *2022 27th Asia Pacific Conference on Communications (APCC)*, 2022, pp. 586-587, doi: 10.1109/APCC55198.2022.9943669.
5. **Ikechi Saviour Igboanusi**, Allwinnaldo, Revin Naufal Alief, Muhammad Rasyid Redha Ansori, Jae-Min Lee, Dong-Seong Kim.(2022). 'Storage-Aware Mining for Blockchain Network'. Proceedings of Symposium of the Korean Institute of communications and Information Sciences,1125-1126.
6. **Ikechi Saviour Igboanusi**, Jae-Min Lee, Dong-Seong Kim, 'A Survey on Low Latency Blockchain Architectures for Industrial Networks,' 2021 International Conference on Information and Communication Technology Convergence (ICTC), 2021.
7. **Ikechi Saviour Igboanusi**, Jae-Min Lee and Dong-Seong Kim, "Blockchain Adoption in Rural Area: The role of Internet Penetration", KICS Winter Conference 2020, Yongpyeong, South Korea, pp.1,207 - 1,210, August 2020.
8. **Ikechi Saviour Igboanusi**, Jae-Min Lee and Dong-Seong Kim, "Field Based Traffic Load Balancing for Industrial Wireless Sensor Network", *24th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA)*, Zaragoza, Spain, September 10-13, 2019.
9. **Ikechi Saviour Igboanusi**, Cosmas Ifeanyi Nwakanma, Jae Min Lee and Dong-seong Kim, "VLC-UWB Hybrid (VUH) Network for Indoor Industrial Robots at Military Warehouses / Distribution Centers", *The 10th International Conference on ICT Convergence October 16-18, 2019 / Ramada Plaza Hotel, Jeju Island, Korea*.
10. **Ikechi Saviour Igboanusi**, Nwadiugwu Williams Paul Chukwuka, Jae Min Lee, and Dong-Seong Kim, "Performance Analysis of VLC-UWB Hybrid (VUH) Network for Indoor Device Connectivity", *KICS Winter Conference 2019, Yongpyeong, South Korea, pp.1,496 - 1,498, January 23-25, 2019*.
11. **Igboanusi Ikechi Saviour**, Dong-Seong Kim, "Industrial Application of Internet of Thing (IoT) for Cost-effective Railway Maintenance System", *2018 Korean Institute of Communications and Information Sciences (KICS), JeJu Island, South Korea, pp.0258-0259, June, 2018*.

GENERAL INFORMATION

Speaking: I have confidence talking in front of people, like in conferences or meetings. I also find it easy to make new friends. I have represented my Lab in several international and local conferences.

Language: Superior level of written and spoken Igbo and English Language (IELTS 8.0 band score). Basic French, Korean and Hausa Language.

Member: Institute of Electrical and Electronics Engineers (IEEE).

Others: International Driver's permit, and International Passport.

HOBBIES

Watching movies, Travelling, reading, playing football (soccer), scrabble, listening to music, and cycling.

REFEREES

Referee 1
Dong-Seong Kim (Professor)
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Referee 2
Chinyere Madu (Professor)
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Referee 3
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PUBLICATIONS CONT.

12. Revin Naufal Alief, Muhammad Rasyid Redha Ansori, Allwinnaldo, **Ikechi Saviour Igboanusi**, Jae-Min Lee, and Dong-Seong Kim, 'Smart Contract-based Payment and Luggage Tracking for Airline Industry.' Proceedings of Symposium of the Korean Institute of communications and Information Sciences,1024-1025.

13. Revin Naufal Alief, Muhammad Rasyid Redha Ansori, Allwinnaldo, **Ikechi Saviour Igboanusi**, Jae-Min Lee, and Dong-Seong Kim, 'Smart Contract-based Airline Ticket Reservation System.'2022 KICS Summer Conference, 22-24 June, 2022, Grand Hyatt Hotel, Jeju Island, Korea.

14. Allwinnaldo, Revin Naufal Alief, Muhammad Rasyid Redha Ansori, **Ikechi Saviour Igboanusi**, Jae-Min Lee, Dong-Seong Kim (2022). 'Smart Contract-based Solution for Secured Supply Chain Transaction.' 2022 KICS Summer Conference, 22-24 June, 2022, Grand Hyatt Hotel, Jeju Island, Korea.

15. Muhammad Rasyid Redha Ansori, Allwinnaldo, Revin Naufal Alief, **Ikechi Saviour Igboanusi**, Jae Min Lee, Dong-Seong Kim. 'Genuine-assurance Scheme for Digital Assets Validation using Blockchain Technology.' 2022 KICS Summer Conference, 22-24 June, 2022, Grand Hyatt Hotel, Jeju Island, Korea.

16. Muhammad Rasyid Redha Ansori, Allwinnaldo, Revin Naufal Alief, **Ikechi Saviour Igboanusi**, Jae Min Lee, Dong-Seong Kim. 'Duplicate Audio Data Detection ModelBased on IPFS and Blockchain using Smart Contract.' Proceedings of Symposium of the Korean Institute of communications and Information Sciences,1028-1029.

17. Allwinnaldo, Revin Naufal Alief, Muhammad Rasyid Redha Ansori, **Ikechi Saviour Igboanusi**, Jae-Min Lee, Dong-Seong Kim.(2022). 'Lightweight Project Bidding Smart Contract for Industial Sector on Ethereum Blockchain.' Proceedings of Symposium of the Korean Institute of communications and Information Sciences,1032-1035.

18. Mohtasin Golam, **Ikechi Saviour Igboanusi**, Jae-Min Lee and Dong-Seong Kim, "Reliable Communication Using Orbital Angular Momentum with SWIPT for Military Networks", The 10th International Conference on ICT Convergence October 16-18, 2019 / Ramada Plaza Hotel, Jeju Island, Korea. (Presented and published)

19. Williams-Paul Nwadiugwu, **Igboanusi Ikechi Saviour** and Dong-Seong Kim, "Real-time Power-splitting with Relay Selection Scheme for Wireless Multi-terminal DF-UWB Relay Network", In 15th ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, & Ubiquitous Networks (PE-WASUN'18), pp. 9-16, Montreal, QC, Canada, tober 28-November 2, 2018. (Presented and published)

WEBSITES

Personal Website: https://sites.google.com/view/ikechisaviour/home
ResearchGate: https://www.researchgate.net/profile/Ikechi-Igboanusi
Github: https://github.com/Ikechisaviour
LinkedIn: https://www.linkedin.com/in/saviour-igboanusi-861212151/
Google Scholar: https://scholar.google.com/citations?user=M9DNpSoAAAAJ&hl=en
NSL: http://nsl.kumoh.ac.kr/include/sub.php?m=203