NICHOLAS C. IKECHUKWU

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Website | Google Scholar | LinkedIn | Research Gate | Github

EDUCATION

PhD in Computer Science (Expected Graduation date: May 2029)

Boston University, Department of Computer Science | Boston, MA | *Sep. 2024 - Present*

- **Advisors:** Prof. Bryan A. Plummer, Prof. Deepti Ghadiyaram
- **Focus**: Query-based Vision Models, Long-term Perception, Continual Panoptic Segmentation
- **Graduate Coursework:** Principles of Machine Learning, Image and Video Computing (Computer Vision), Graduate Artificial Intelligence, and Formal Methods in Software Engineering.

Bachelor of Engineering in Computer Engineering | Summa Cum Laude, First Class Honors

Michael Okpara University | Umudike, Nigeria | *Sep. 2016 - 2021*

- **Major GPA:** 5.0/5.0 (4.0/4.0 equivalent), Final Cumulative GPA: 4.90/5.0 (3.95/4.0 equivalent)
- **Honors:** Top 1% of class, Best Graduating Student, Valedictorian (Class Rank: 1/280)
- **Relevant Coursework:** Artificial Intelligence, Robotics, Software Engineering, Data Structures & Algorithms, Networking, Digital Systems Design, Linear Algebra, and Statistics for Engineering

PREPRINTS & PUBLICATIONS

- Ogobuchi D Okey, Theodore T Chiagunye, Henrietta U Udeani, **Nicholas Ikechukwu**, Renata L Rosa, Demóstenes R Zegarra "Integrating Quantum Computing and Machine Learning in 6G Networks" *John Wiley & Sons, Inc, 283-309, 2026*

- Keanu Nichols, Nazia Tasnim, Yuting Yan, **Nicholas Ikechukwu,** Elva Zou, Deepti Ghadiyaram, Bryan A Plummer. "RightSideUp: Disentangling Orientation Understanding in Multimodal Large Language Models with Fine-grained Multi-axis Perception Tasks" *arXiv preprint arXiv:2505.21649, 2025*

RESEARCH EXPERIENCE

Machine Learning & Computer Vision Research

Boston University Computer Vision Lab | Boston, MA | *Sep. 2024 - Present*

***Advisors**: Prof. Bryan A. Plummer, Prof. Deepti Ghadiyaram*

- Optimizing vision transformer inference for real-time panoptic segmentation
- Stability-plasticity analysis of continual incremental segmentation methods
- Long-term perception in query-based vision transformers
- Technologies: PyTorch, Detectron2, CUDA, DETR, Mask2Former

Undergraduate and Graduate Research Assistantship Aug. 2023 – May 2024, Jan 2020 – Jun 2021

Michael Okpara University, AI and Software Engineering Labs | Umudike, Nigeria |

***Advisors**: Dr. Chiagunye Tochukwu, Dr. Okereke Eze Aru, Dr. Cyril Ede*

- Machine Learning research:
  - Clustering Algorithms, Reinforcement Learning, 6G-ML integration (Aug 2023 – May 2024)
- Software and Robotics: RFID systems, robotics fabrication, cloud-based system design (Jan 2020 – Jun 2021)

TEACHING EXPERIENCE

Teaching Fellow – BU Computer Science Department | Boston, MA

CS440: Artificial Intelligence : *Spring 2025, Fall 2025, Spring 2026*

- Mentored and assessed 300+ students across two semesters, conducted 180+ hours of office hours, via 1-on-1 guidance on reinforcement learning algorithms, policy evaluation, and problem-solving strategies.
- Designed and led lab sessions covering Machine Learning and Reinforcement learning concepts

Course Tutor, Michael Okpara University | Umudike, Nigeria *Feb 2021 - June 2021*

- Provided weekly tutorials for undergraduates across CSE courses such as CSE411 (Structured Programming: C++), CSE417 (Feedback & Control) CSE522 (Systems Programming - Java), and CSE520 (Computer Graphics)
- Co-organized interactive programming classes for undergraduates using JavaScript object-oriented programming

PROFESSIONAL EXPERIENCE

Software Engineer

Tedbree & Tech1M | Lagos, Nigeria | *June 2021 - July 2024*

- Developed AI-driven APIs for job post generation, real-time chat, and intelligent application workflows
- Engineered mobile apps with ReactNative and PyTorch Lite (recipe recognition, vehicle tracking)
- Built backend infrastructure for talent acquisition platform (1000+ monthly users)
- Technologies: Python, TypeScript, Node.js, MongoDB, React Native, REST APIs, Docker

AWARDS AND HONORS

- Boston University GRS Dean's Fellowship for Exceptional Newly-admitted PhD students **2024**
- Best Graduating Student and Valedictorian at the 11th Convocation of Michael Okpara University **2023**
- University Alumni Award for Overall Best Graduating Student - First Degree, Michael Okpara University **2023**
- Dozie Ndubuisi Onunkwo, Ogbonnaya C. Onwudike, Iheze Marcus Nwosu Ogbuagu Memorial Awards **2023**
- Dean's Award for Best Engineering Graduating Student from the Michael Okpara University. **2021**
- NACOMES Merit Award of Excellence in Student Leadership, Association of Computer Engineering Students **2021**
- Fully-Funded MTN Foundation Science and Technology Undergraduate Scholarship **2019**
- High Performance Undergraduate Student Award **2016, 2017, 2019, 2020, 2021**

LEADERSHIP & SERVICE

- President, National Association of Computer Engineering Students (NACOMES), MOUAU Jan. 2019 – Nov. 2020
- Academic Outreach Coordinator, MOUAU 2019

TECHNICAL SKILLS

Languages: Python, Java, TypeScript, JavaScript, SQL | **Tools and Platforms:** Git/GitHub, Docker, MongoDB, React, React-Native | **Machine Learning & Deep Learning:** PyTorch, Detectron2, TensorBoard, Jupyter Notebooks

ADDITIONAL INFORMATION

Spoken Languages: English (Fluent—language from K-12 through PhD program), Igbo (Intermediate)

RESEARCH INTERESTS

Computer Vision, Machine Learning, Continual Panoptic Segmentation, Query-based Vision Models, Robotic & Autonomous Perception