

**Ebuka Johnbosco Okpala**  
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## Education

### Clemson University, Clemson, SC

Ph.D. in Computer Science

August 2020 – May 2024 (Expected)

- Research interests: Applied Machine Learning, Deep Learning, and Natural Language Processing

M.S. in Computer Science: GPA: 3.75

August 2018 – May 2020

- Relevant coursework: Design and Analysis of Algorithms, Deep Learning, Hand on Machine Learning, Advanced Machine Learning, Database Management Systems, Software Architecture, and Advanced Computer Security

### Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

B.Sc. Computer Engineering: Second Class (Upper division)

August 2011 – June 2015

## Technical Skills

Programming Languages: Python, C/C++, Java, Swift, and SQL

Machine Learning Libraries: TensorFlow, Keras, PyTorch, Trax, Scikit-learn, Numpy, and Pandas

Web Development: JavaScript, PHP, jQuery, Node.js, MySQL, HTML5 and CSS

Big data: Splunk and Apache Superset

## Experience

### Clemson Online - Clemson University

Clemson, SC

Digital Tech Coordinator (Graduate Assistantship)

August 2019 – Present

- Created SQL queries to extract knowledge from Clemson University's learning technologies databases
- Developed data analytics dashboards from the results of the queries using Splunk and its Search Processing Language. These dashboards provide insights to the University leadership to make strategic decisions on maintenance, acquisition, and transition of learning technology systems and tools, enabling the University to run efficiently, cut costs, and reallocate needed resources.
- Worked across teams to develop and maintain the Clemson Online website
- Developed a pipeline that automates the calculation of location metrics of thousands of Clemson University students. Improving a manual process that took weeks to under 5 minutes

### Apple Inc

Seattle, WA

AI/ML Software Engineering Intern

May 2022 – August 2022

- Built the integration and tooling upon which the Siri Smart Home Experience team drive quality in performance ahead of seeding and production. Developed analytics dashboards that provide insights from the measured performance and latency metrics

### Apple Inc

Seattle, WA

AI/ML Software Engineering Intern

May 2021 – August 2021

- Developed a new end-to-end Siri in the home feature that enable users discover the automations in their home

### Eresea Foods Inc

Anambra, Nigeria

Web Software Developer

January 2017 – June 2018

- Designed and developed the Eresea Foods' website from start to production and managed the website after production

### Andela

Remote

Web Application Developer Trainee

October 2017 – May 2018

- Developed a progressive news feed headlines web application
- Developed RESTFUL APIs for a web-based student information system using Node.js, AngularJs and MongoDB

## Publications

- **Understanding and Mitigating Biases in BERT-based Hate Speech Detection Models.** Ebuka Okpala, Long Cheng, Nicodemus Mbawambo, Feng Luo, Hongxin Hu, Matthew Costello. IEEE Transactions on Computational Social Systems, 2023. (In review)
- **Characterizing Offensive Tweets and Their Targets During COVID-19 Pandemic.** Song Liao, Ebuka Okpala, Long Cheng, Nishant Vishwamitra, Mingqi Li, Hongxin Hu, Feng Luo, Matthew Costello. The ACM Web Conference, 2023. (In review)

- **AAEBERT: Debiasing BERT-based Hate Speech Detection Models via Adversarial Learning.** Ebuka Okpala, Long Cheng, Nicodemus Mbawambo, Feng Luo. International Conference on Machine Learning and Applications (ICLMA), 2022. (Accepted)
- **COVID-HateBERT: a Pre-trained Language Model for COVID-19 related Hate Speech Detection.** Mingqi Li, Song Liao, Ebuka Okpala, Tong M, Matthew Costello, Long Cheng, Hongxin Hu, Feng Luo. International Conference on Machine Learning and Applications (ICMLA), 2021.
- **COVID-19: A Pandemic of Anti-Asian Cyberhate.** Matthew Costello, Long Cheng, Feng Luo, Hongxin Hu, Song Liao, Nishant Vishwamitra, Mingqi Li, Ebuka Okpala. Journal of Hate Studies (JHS), 2021.
- **Enhancing AI-Cybersecurity Education Through Designing AI/ML-based Cyberharassment Detection Labs.** Nishant Vishwamitra, Ebuka Okpala, Keyan Guo, Song Liao, Long Cheng, Hongxin Hu, Yongkai Wu, Xiaohong Yuan, Jeannette Wade, Sajad Khorsandroo. (In revision)

## Posters

- **AAEBERT: Debiasing BERT-based Hate Speech Detection Models via Adversarial Learning.** Ebuka Okpala, Long Cheng. IEEE Secure Development Conference (SecDev), 2022.
- **BranchCorr: Detecting Incompatible Branch Behavior by Enforcing Branch Correlation Integrity.** Long Cheng, Ebuka Okpala, Song Liao, Danfeng(Daphne) Yao. IEEE Secure Development Conference (SecDev), 2019.

## Service

### *Reviewer for Conference*

- IEEE International Performance Computing and Communication Conference (IPCCC), 2021.
- Annual Computer Security Conference (ACSC), 2022.

## Conference and Workshop Invitations

- Blacks In Technology Conference (BITCON), 2022. *Awarded scholarship to attend by Google*
- Computing Research Association Widening Participation (CRA-WP) Grad Cohort Workshop for IDEALS, 2022. *Awarded scholarship to attend by CRA*
- The National Society of Blacks in Computing Conference (NSBC), 2019. *Awarded scholarship to attend by NSBC*

## Projects

### **Learning Platform and Education Curriculum for AI-Driven Socially Relevant Cybersecurity**

June 2022

- Designed the hyperparameter tuning and adversarial attack labs in the [EAGER SaTC](#) lab project. The hands-on labs engage students in AI-driven, socially relevant cybersecurity.
- Designed, developed, and maintains the [EAGER SaTC](#) website