



Chisom Ezekannagha

Personal Information

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Education

2020– Present **PhD, Computer Science, Bioinformatics**, *Philipps-Universität Marburg*, Germany.
2016 – 2018 **Master of Science, Computer Science (Bioinformatics)**, *University of Ibadan*, Nigeria.
2009 – 2013 **Bachelors of Science, Computer Science**, *Anambra State University*, Uli, Nigeria.

Work Experience

Oct 2020 – Present **Research Associate**, HEIDER LAB, PHILIPPS-UNIVERSITÄT MARBURG, Marburg, Germany .

- Creating automatic visualization workflows
- Developing exploratory data analysis framework for information storage systems based on biological and chemical compounds
- Tutor and organize workshops for multiple undergraduate and graduate students

May 2018 – Oct 2019 **Research Supervisor**, INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE, Ibadan, Nigeria.

- Developed and implemented scripts to parse, process, and analyze genome-wide data sets for RNA sequencing and gene expression studies
- Carried out data analyses in parallel on large compute cluster; integrate, organize and analyze program output
- Managed research data-sets on file servers and ensure their appropriate backup, completeness, correctness and integrity
- Prepared reports of findings by compiling results, generating figures, and preparing tables from analyses of genomics studies
- Developed research objectives, projects and proposals

May 2017 – **Research Fellow**, INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE,
April 2018 Ibadan, Nigeria.

- Developed new computational method called GeAnnotate for annotation of Cassava genes
- Used programming languages such as R/Python for pipeline development
- Made presentations at conferences/exhibit work at other appropriate events
- Assisted in preparing scientific presentations, grant applications and manuscripts

Complementary Education

- 2022 **OxML Summer school**, *Oxford Machine Learning summer school*, University of Oxford, England.
(Virtual)
- 2021 **Bio+Med+Vis Spring school**, *The 1st Spring School on Biological and Medical Visualization*, (Virtual).
- 2019 **Workshop**, *Next Generation Sequencing Bioinformatics*, University of Witswatersrand, Johannesburg, South Africa.
- 2016 **Training**, *H3ABioNet Introduction to Bioinformatics Course (IBT)*, University of Ibadan, Nigeria.

Publications

- 2023 **Ezekannagha, C.**, Welzel, M., Heider, D., Hattab, G., *DNAsmart: Multiple Attribute Ranking Tool for DNA Data Storage Systems*, Computational and Structural Biotechnology Journal, <https://doi.org/10.1016/j.csbj.2023.02.016>.
- 2022 **Ezekannagha, C.**, Becker, A., Heider, D., Hattab, G., *Design considerations for advancing data storage with synthetic DNA for long-term archiving*, Materials Today Bio, <https://doi.org/10.1016/j.mtbio.2022.100306>.
- 2022 Kaya, G., **Ezekannagha, C.**, Heider, D., Hattab, G., *Context-Aware Phylogenetic Trees for Phylogeny-based Taxonomy Visualization*, Frontiers in Genetics, <https://doi.org/10.3389/fgene.2022.891240>.
- 2021 Olagunju, T., **Ezekannagha, C.**, Gisel, A., *3'-Tag RNA-Sequencing*, EMB-net-journal, <https://doi.org/10.14806/ej.26.A.968>.

Selected Conferences

- 2022 IEEE Visualization Conference (VIS). Oklahoma City, Chicago, USA. (attendee)
- 2022 24th EG Conference on Visualization (EuroVis). Rome, Italy. (attendee, Student Volunteer)
- 2022 The 1st International Conference on Data storage in Molecular Media (DSMM). Bielefeld, Germany. (Presenter)
- 2021 IEEE Visualization Conference (VIS). New Orleans, Louisiana, USA. (attendee)
- 2021 11th EG Workshop on Visual Computing for Biology and Medicine (VCBM). Paris, France. (attendee)
- 2021 Symposium on Interdisciplinary Bioinformatics and Biomedical Data Science (IBB-MDS). Marburg, Germany. (attendee)

- 2020 IEEE Visualization Conference (VIS). Salt Lake City, Utah, USA. (attendee)
- 2020 Eurographics & Eurovis (EGEV). Norrköpping, Sweden. (attendee)
- 2019 The 1st Nigerian Bioinformatics Conference(NBC): Bioinformatics in the era of genomics in Africa. Nigerian Institute of Medical Research (NIMR), Lagos, Nigeria. (Poster)
- 2018 The International Association of Research Scholars and Fellow 21th Annual Symposium on "Sustainable Graduate Research for Transformation of Africa's Agro-food and Industrial Utilization". IITA Ibadan, Nigeria
- 2017 The International Association of Research Scholars and Fellow 20th Annual Symposium on "Contribution of IITA Graduate Research in Transforming African Agriculture". IITA Ibadan, Nigeria

Teaching

- 2022 **Seminar**, *Introduction to Bioinformatics*, Department of Mathematics and Computer Science, University of Marburg. Marburg, Germany. 1 SEM. (tutor)
- 2021 **Course**, *Data Visualization*, Department of Mathematics and Computer Science, University of Marburg. Marburg, Germany. 1 SEM. (co-tutor)
- 2020–2022 **Seminar**, *Biological Data Visualization*, Department of Mathematics and Computer Science, University of Marburg. Marburg, Germany. 3 SEM. (co-tutor)

Grants

- 2019 **Welcome Genome Campus**, *Next Generation Sequencing Bioinformatics*, University of Witswatersrand, Johannesburg, South Africa, (Seminar Grant).
- 2016 **H3Africa**, *H3ABioNet Introduction to Bioinformatics Course (IBT)*, University of Ibadan, Nigeria, (Training Grant).

Projects

Bioinformatics

- A Computational pipeline for Genome annotation and Metabolic Pathway Reconstruction in plants (A case Study of Cassava)
- CAPT: Context-Aware Phylogenetic Tool for Phylogeny-based Visualization
- DNASmart: Multiple Attribute ranking tool for DNA data storage systems

Computer Science Design and Implementation of GPA calculator

Skills

Language Igbo(Native), English(Fluent), German(Elementary)

IT skills

- Programming: JavaScript(React, D3), R, Python
- Database: SQL, MySQL
- Scripting: UNIX Shell, XHTML
- Office productivity: Microsoft Office Suite, LaTeX
- Machine Learning: TensorFlow, Scikit-learn

Additional skills Bioinformatics, Data Visualization, Web Development

Soft skills

- Excellent organizational and communication skills
- Good Interpersonal skills with great ability to function in multicultural environment
- Ability to work effectively and productively in a team