

Oghenemaro Anuyah

PH.D STUDENT (2023 EXPECTED) · UNIVERSITY OF NOTRE DAME

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Research Interest

- My research lies in the intersection of Human Computer Interaction and Machine Learning. My research topics include Human Computer Interaction, Search and Information Retrieval, Information Visualization, and Recommender Systems.
- I have published 12 peer-reviewed journal/conference papers, including 6 first-authored ones. These papers have been published in venues such as IDC, TheWebConf, CHIIR, RecSys, and LREC.

Education

Ph.D in Computer Science and Engineering

UNIVERSITY OF NOTRE DAME

- **Advisor:** Dr. Ronald Metoyer
- **GPA:** (3.83 / 4.0)

Jan 2020 - PRESENT

Notre Dame, IN

Ph.D in Computer Science (transferred out)

BOISE STATE UNIVERSITY

- **GPA:** (3.79 / 4.0)

Aug 2018 - Dec 2019

Boise, ID

M.S in Computer Science

BOISE STATE UNIVERSITY

- **GPA:** (3.71 / 4.0)

Aug 2016-Jul 2018

Boise, ID

B.S in Computer Science

DELTA STATE UNIVERSITY

- **GPA:** (3.58 / 4.0), **Class Rank:** (2 / 50+ students)

Nov 2008-Oct 2012

Delta, NG

Publications

Journal Articles

- (J1) **Anuyah O.**, Milton A., Green M., and Pera M. S. "An Empirical Analysis of Search Engines' Response to Web Search Queries Associated with the Classroom Setting". In: *Aslib Journal of Information Management* (Vol. 72 No. 1, pp. 88-111), December 2019.

Journal Articles (Acknowledged for research contribution)

- (A1) Azpiazu A. I., Dragovic N, Pera M. S., and Fails J. "Online searching and learning: YUM and other search tools for children and teachers". In: *Information Retrieval Journal* (Vol. 20 No. 5, pp. 524-545), 2017.

Conference Proceedings

- (C5) Downs B., **Anuyah O.**, Shukla A., Fails J., Pera M. S., Wright K., and Kennington C. "KidSpell: A Child-Oriented, Rule-Based, Phonetic Spellchecker". In: *Proceedings of the Twelfth International Conference on Language Resources and Evaluation (LREC)*, 2020.
- (C4) Fails J., Pera M. S., **Anuyah O.**, Kennington C., Wright K., and Bigirimana W. "Query Formulation Assistance for Kids: What is Available, When to Help & What Kids Want". In: *Proceedings of the 18th ACM Conference on Interaction Design and Children (IDC)* (pp. 109-120), June 2019 [Gave oral presentation].
- (C3) **Anuyah O.**, Fails J., and Pera M. S. "Investigating Query Formulation Assistance for Children". In: *Proceedings of the 17th ACM Conference on Interaction Design and Children (IDC)* (pp. 581-586), June 2018.
- (C2) Madrazo A. I., Dragovic N., **Anuyah O.**, and Pera M. S. "Looking for the Movie Seven or Sven from the Movie Frozen? A Multi-perspective Strategy for Recommending Queries for Children". In: *Proceedings of the ACM Conference on Human Information Interaction and Retrieval (CHIIR)* (pp. 92-101), March 2018.
- (C1) Ekstrand M. D., Tian M., Madrazo A. I., Ekstrand J. D., **Anuyah O.**, McNeill D., and Pera M. S. "All The Cool Kids, How Do They Fit In?: Popularity and Demographic Biases in Recommender Evaluation and Effectiveness". In: *Proceedings of the ACM Conference on Fairness, Accountability, and Transparency (FACCT)* (pp. 172-186), January 2018.

Poster Proceedings

- (P2) Madrazo A. I., Green M., **Anuyah O.**, and Pera M. S. "Can we Leverage Rating Patterns from Traditional Users to Enhance Recommendations for Children?". In: *ACM RecSys Poster Proceedings*, August 2018.
- (P1) **Anuyah O.**, Madrazo A. I., McNeill D., and Pera M. S. "Can Readability Enhance Recommendations on Community Question Answering Sites?". In: *ACM RecSys Poster Proceedings*, August 2017.

Conference Workshops

- (W4) **Anuyah O.**, Milton A., Green M., and Pera M. S. "The Need for a Comprehensive Strategy to Evaluate Search Engine Performance in the Classroom". In: *3rd International and Interdisciplinary Perspectives on Children & Recommender and Information Retrieval Systems (KidRec) Workshop - Co-located with ACM Interaction Design and Children Conference (IDC)*, June 2019.
- (W3) Green M., **Anuyah O.**, Karsann D., and Pera M. S. "Evaluating Prediction-based Recommenders for Kids". In: *3rd International and Interdisciplinary Perspectives on Children & Recommender and Information Retrieval Systems (KidRec) Workshop - Co-located with ACM Interaction Design and Children Conference (IDC)*, June 2019.
- (W2) **Anuyah O.**, Madrazo A. I., and Pera M. S. "Using Structured Knowledge and Traditional Word Embeddings to Generate Concept Representations in the Educational Domain". In: *Companion Proceedings of the 2019 World Wide Web Conference (pp. 274–282)*, May 2019 [**Gave oral presentation**].
- (W1) **Anuyah O.**, Madrazo A. I., Dragovic N., and Pera M. S. "Lightning Talk-Looking for the Movie Seven or Sven from the Movie Frozen?". In: *Companion Proceedings of the 2019 World Wide Web Conference (pp. 1266–1267)*, May 2019 [**Gave oral presentation**].

Thesis

- (T1) **Anuyah O.** "Fostering the Retrieval of Suitable Web Resources in Response to Children's Educational Search Tasks". In: *Boise State University Theses and Dissertations*, 2018.

Unpublished

Conference Proceedings (Under review)

- (C8) Vega-Nogales A., **Anuyah O.**, Zhi Q., Rush J., Shrestha S., Gilbride H., Conrado A., and Metoyer R. "SociRec: An expert-driven strategy for recommending government-issued social services to users". Submitted to: *ACM International Conference on Recommender Systems (RecSys)*, 2020.
- (C7) **Anuyah O.**, Douailly-Backman J., Metoyer R., and Jiang M. "Modeling User Behaviors to Predict Hatefulness Level of Posts on Social Media". Submitted to: *the 7th IEEE International Conference on Data Science and Advanced Analytics (DSAA)*, 2020.
- (C6) Milton A., **Anuyah O.**, Spear L., Wright K., and Pera M. S. "Korsce: A Ranking Strategy to Ease Children's Information Discovery in the Classroom". Submitted to: *ACM SIGIR Conference on Human Information Interaction and Retrieval (CHIIR)*, 2021.

Technical Skills

Legend: Used in **most projects** / **several projects** / **one or two projects**.

UX Methods	Usability test, Interview, Observation, Surveying
Data Science / Machine Learning / AI	Logistic Regression, Clustering, Deep Learning
Statistical Analysis	Linear Regression, Decision Trees, Naive Bayes, SVM,
Programming	Python, R, Java, Keras
Web Development Languages	HTML, CSS, JavaScript, D3.js, PHP, Flask framework
Operating Systems	Mac OS, Microsoft Windows, Linux
Others	Git, \LaTeX

Research Experience

University of Notre Dame

Notre Dame, IN

RESEARCH ASSISTANT

January 2020 - present

- Design interactive environments for visualizing software traceability links.
- Conduct analysis to understand the information needs of software practitioners in order to inform design of proposed visualization systems.
- Design a system for recommending e-government social services to persons in need of care.
- Conduct and analyze surveys to identify user needs and inform design of the proposed recommender system.

Boise State University

Boise, ID

RESEARCH ASSISTANT

August 2016 - December 2019

- Conducted research on enhancing web search environments for children.
- Implemented a search interface for archiving children's search sessions.
- Designed an interface that adopts visual cues in presenting query suggestions to users.
- Conducted qualitative and quantitative analysis to understand how search engines respond to children's needs.
- Mentored two undergraduate students and one M.Sc student for research.
- Prepared detailed research reports.
- Worked in a team environment to meet project goals.

Teaching Experience

Boise State University

Boise, ID

TEACHING ASSISTANT

May 2017 - August 2017

- Tutored undergraduate students "Introduction to Programming with Java."

Professional Experience

Fiogret Limited

Lagos, NG

IT SUPPORT / DATABASE ASSISTANT

September 2013 - August 2016

- Maintained quality and accuracy of information in customer database.
- Provided technical support and planning for projects.
- Monitored system and network devices for optimum performance.
- Troubleshoot existing system and introduced new system for smooth working.
- Documented new and updated technical specifications.
- Utilized network management tools to perform creative action.

Guinness Nigeria Plc

Lagos, NG

INTERNSHIP

December 2011 - March 2012

- Troubleshoot and maintained computers, word processing, foundation studies on the use of IT for industrial/ organization management.

Selected Volunteer Experience

Riverglen GO STEM (girls only) Day Camp

Boise, ID

STUDENT VOLUNTEER

Summer 2019

- Taught middle school female students how to program Lego robots.

Engineering and Science Festival, Boise State University

Boise, ID

NSBE STUDENT LEADER AND EVENT CO-ORGANIZER

Spring 2019

- Leveraged lego coding express to introduce young children to coding.

Garfield Elementary School

Boise, ID

NSBE AND ACM-W STUDENT VOLUNTEER

Fall 2018

- Taught school children how to program using minecraft.

Garfield Elementary School

Boise, ID

NSBE AND ACM-W STUDENT VOLUNTEER AT HOUR-OF-CODE EVENT

Fall 2018

- Taught school children how to program using minecraft.

Engineering and Science Festival, Boise State University

Boise, ID

ACM-W STUDENT VOLUNTEER AT HOUR-OF-CODE EVENT

Spring 2018

- Tutored young children how to code using computer programming software.

Awards & Recognitions

2020	Scholarship Recipient , Funded to attend the Richard Tapia Virtual Computing Conference	Dallas, TX
2020–23	Contributor , National Science Foundation (NSF) grant with award number 1901059 (Ph.D)	Notre Dame, IN
2019	Scholarship Recipient , Alfred M. Dufty, Jr. Graduate Student Travel and Presentation Award	Boise, ID
2018–19	Contributor , NSF grant with award number 1763649 (Ph.D)	Boise, ID
2019	Scholarship Recipient , NSBE BCA/Major/Fellows (\$2,500)	USA
2019	Scholarship Recipient , Funded by IAAMCS to attend National Society of Blacks in Computing Conference	Atlanta, GA
2018	Scholarship Recipient , Funded by Computing Research Association to attend CRA-URMD Grad Cohort	San Diego, CA
2018	Nominee , Boise State University Campus Award for Commitment to Community	Boise, ID
2017	Scholarship Recipient , Funded by Anita Borg Institute to attend Grace Hopper Conference	Orlando, FL
2017	Scholarship Recipient , Funded by Computing Research Association to attend CRA-W Grad Cohort	Washington, DC
2017	Assistantship Recipient , Boise State Graduate Assistantship for Teaching and Research	Boise, ID
2016–18	Contributor , NSF grant with award number 1565937 (M.S.)	Boise, ID
2016–17	Scholarship Recipient , Boise State University Graduate GEM Scholarship	Boise, ID
2010–12	Scholarship Recipient , Delta State Bursary	Delta, NG

Oral Presentation

ACM International Conference on Interaction Design and Children (IDC)

Boise, ID

PAPER PRESENTER

2019

- **Title:** “Query formulation assistance for kids: What is available, when to help & what kids want”

International Workshop on Deep Learning for Graphs and Structured Data Embedding (Co-located with the ACM World Wide Web Conference)

San Francisco, CA

PAPER PRESENTER

2019

- **Title:** “Using structured knowledge and traditional word embeddings to generate concept representations in the educational domain.”

The Third Workshop on Women in Web Data Science (Co-located with the ACM World Wide Web Conference)

San Francisco, CA

PAPER PRESENTER

2019

- **Title:** “Lightning Talk - Looking for the Movie Seven or Sven from the Movie Frozen?”

CRA-URMD Grad Cohort Workshop

San Diego, CA

POSTER PRESENTER

2018

- **Title:** “Extending Safe Search Functionality for Identifying Child-Safe Web Resources.”

Grace Hopper Conference

Orlando, FL

POSTER PRESENTER

2017

- **Title:** “Suitability of Online Resources Retrieved in Response to Queries Written by Children.”

CRA-W Grad Cohort Workshop

Washington, DC

POSTER PRESENTER

2017

- **Title:** “Considering Content and Suitability of Online Resources Retrieved in Response to Children’s Queries.”

Memberships

- Association of Computing Machinery (ACM): **Membership Number 4077264.**
- National Society of Black Engineers (NSBE): **Membership Number 348106.**

Service

2020-21	Reviewer , ACM SIGIR Conference on Human Information Interaction and Retrieval
2020-21	Program Committee Member , ACM SIGIR Conference on Human Information Interaction and Retrieval
2020-	Vice President of Careers , Africa Graduate Club of Notre Dame
2019-20	Co-Publicity Chair , ACM UMAP Conference
2019	Student Volunteer , ACM IDC Conference
2018-19	Vice President , National Society of Black Engineers (NSBE): Boise State University Chapter
2018-19	Financial Officer , ACM-W: Boise State University Chapter