

# Alexander C. Nwala

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## Research interests

**Social Media/Computational Social Science, Web/Data Science**  
**Web Archiving, (Local)News, NLP**

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## Education

- 2020 – 2022 **Postdoctoral**, *Observatory on Social Media, Indiana University, Bloomington, Indiana, USA*  
Advisor: Filippo Menczer
- 2014 – 2020 **Ph.D. Computer Science**, *Old Dominion University (ODU), Norfolk, Virginia, USA*  
Thesis: [Bootstrapping Web Archive Collections From Micro-Collections In Social Media](#),  
Summa Cum Laude, Advisor: Michael Nelson
- 2012 – 2014 **M.S. Computer Science**, *Old Dominion University, Norfolk, Virginia, USA*  
Thesis: [Generating Combinatorial Objects - A New Perspective](#),  
Summa Cum Laude, Advisor: Stephan Olariu
- 2008 – 2011 **B.S. Computer Science (Minor: Aviation Science)**, *Elizabeth City State University, Elizabeth City, North Carolina, USA*  
Summa Cum Laude

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## Appointments

- 08/2022 – Present **Assistant Professor, William & Mary, Williamsburg Virginia**
- 08/2020 – 07/2022 **Postdoctoral Researcher, Observatory on Social Media, Indiana University**
- 05/2014 – 08/2020 **Research Assistant, WS-DL group, ODU**
- 06 – 08/2016 **Summer Fellow, Harvard Law School Library Innovation Lab**
- 06 – 08/2017 **Intern, The Berkman Klein Center, Harvard University**
- 05/2012 – 05/2014 **Research Assistant, Old Dominion University**
- 2009 – 2011 **Summer Intern, North Carolina Department of Transportation**

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## Grants (\$185K total, PI on 2 of 3)

- 2023 – 2025: CRII: III: Measuring the alignment between the interests of local communities, local news, and the national news media (\$175,000)
- 2022 – 2023: William and Mary Faculty Research Grants (\$5,000)
- 2022 – 2023: William and Mary Arts and Science Dean's Faculty Support (Co-PI,\$5,000)

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## Teaching

### [William & Mary](#)

- Spring 2024 **Network Analysis - DATA 641-01/445-01**
- Spring 2023 **Network Science - DATA 340-02**
- Fall 2022/2023 **Web Science - DATA 440-03**

### [Old Dominion University](#)

- CS 432/532 **Web Science - Spring 2018/2019**
- CS 150 **Introduction to Programming with C++ - July - November 2018**  
Volunteer C++ Instructor for Middle/High School Students (ages 11 - 16)
- CS 333/CS 250 **Programming and Problem Solving in C++ - Fall 2014, Spring/Fall 2015**  
Teaching Assistant/Lab Instructor

### [Elizabeth City State University](#)

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## Software/Services

- Implemented: [Sumgram](#) (Text collection summarization with most frequent conjoined ngrams)
- Implemented: [StoryGraph](#) (Real-time news Story Link Detection), [Twitter Bot](#), [Github](#)
- Implemented: [Local Memory Project](#) (Local news collection generator), [Github](#)
- Implemented: [#icanhazmemento](#) (URL archiving Twitter-bot), [Github](#)
- Implemented: <http://whatdiditlooklike.mementoweb.org/> (Twitter-bot/Visualize website yearly), [Github](#)
- Refactored: [Carbon Date v2.0](#) (Estimates the creation date of website), [Github](#)

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## Computer skills

Languages Python, C++, C#, Java, Assembly Language, PHP, JavaScript, HTML, MySQL, etc.  
Technologies/APIs Twitter API, Tumblr API, D3.js, Microsoft Kinect SDK, Weka, etc.

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## Scholarship/Awards

- 2017 **Graduate**  
Outstanding Ph.D research award
- 2010 - 2011 **Undergraduate**
- Graduating student with the highest GPA, Academic Achievement in Computer Science Award
  - Spelman College Computer Science Olympiad 2010 - 1st Place - Programming
  - Advancing Robotics Technology for Societal Impact (ARTSI) 2010 Robotics competition - 2nd Place
  - Rivers State Government Undergraduate Scholarship

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## Google Scholar

Citations: 131, h-index: 6 (at 2024-03-22): <https://scholar.google.com/citations?user=LqrUey4AAAAJ&hl=en>

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## Publications - Journals

- [1] Eoin C Whelan, Alexander C Nwala, Christopher Osgood, and Stephan Olariu. Selective mutation accumulation: a computational model of the paternal age effect. *Bioinformatics*, 32(24):3790–3797, 2016.
- [2] Wu He, Ashish Kshirsagar, Alexander Nwala, and Yaohang Li. Teaching information security with workflow technology—a case study approach. *Journal of Information Systems Education*, 25(3), 2014.

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## Publications - Refereed Conference Proceedings

- [1] Alexander C. Nwala, Alessandro Flammini, and Filippo Menczer. A language framework for modeling social media account behavior. *EPJ Data Science*, 12(1):33, 2023.
- [2] Christopher Torres-Lugo, Manita Pote, Alexander Nwala, and Filippo Menczer. Manipulating twitter through deletions. In *Proceedings of AAAI Conference on Web and Social Media (ICWSM)*, 2022.
- [3] Alexander C Nwala, Michele C Weigle, and Michael L Nelson. Garbage, Glitter, or Gold: Assigning Multi-dimensional Quality Scores to Social Media Seeds for Web Archive Collections. In *Proceedings of ACM/IEEE Joint Conference on Digital Libraries (JCDL 2021)*, 2021.
- [4] Dhruv Patel, Alexander C Nwala, Michele C Weigle, and Michael L Nelson. What Did It Look Like: A service for creating website timelapses using the Memento framework. In *Proceedings of ACM/IEEE Joint Conference on Digital Libraries (JCDL 2021)*, 2021.
- [5] Alexander C Nwala, Michele C Weigle, and Michael L Nelson. 365 Dots in 2019: Quantifying Attention of News Sources. In *Proceedings of Computation + Journalism Symposium 2020 (CJ 2020)*, 2020.
- [6] Yasith Jayawardana, Alexander C Nwala, Gavindya Jayawardana, Jian Wu, Sampath Jayarathna, Michael L Nelson, and C Lee Giles. Modeling Updates of Scholarly Webpages Using Archived Data. In *Proceedings of IEEE International Conference on Big Data (IEEE BigData 2020)*, 2020.

- [7] Alexander C Nwala, Michele C Weigle, and Michael L Nelson. Using Micro-collections in Social Media to Generate Seeds for Web Archive Collections. In *Proceedings of ACM/IEEE Joint Conference on Digital Libraries (JCDL 2019)*, 2019. (**Best paper nominee**).
- [8] Alexander C. Nwala, Michele C. Weigle, and Michael L. Nelson. Scraping SERPs for Archival Seeds: It Matters When You Start. In *JCDL '18: Proceedings of the 17th ACM/IEEE-CS Joint Conference on Digital Libraries*, pages 263–272, 2018.
- [9] Alexander C. Nwala, Michele C. Weigle, and Michael L. Nelson. Bootstrapping Web Archive Collections from Social Media. In *HT '18: Proceedings of ACM ACM Conference on Hypertext and Social Media*, pages 64–72, 2018.
- [10] Shawn M. Jones, Alexander C. Nwala, Michele C. Weigle, and Michael L. Nelson. The many shapes of Archive-It. In *Proceedings of iPres*, 2018.
- [11] Grant Atkins, Alexander C. Nwala, Michele C. Weigle, and Michael L. Nelson. Measuring News Similarity Across Ten U.S. News Sites. In *Proceedings of iPres*, 2018.
- [12] Alexander C. Nwala, Michele C. Weigle, Michael L. Nelson, Adam B. Ziegler, and Anastasia Aizman. Local Memory Project: Providing tools to build collections of stories for local events from local sources. In *JCDL '17: Proceedings of the 17th ACM/IEEE-CS Joint Conference on Digital Libraries*, pages 219–228, 2017.
- [13] Alexander Nwala and Michael L. Nelson. A supervised learning algorithm for binary domain classification of web queries using SERPs. In *JCDL '16: Proceedings of the 16th ACM/IEEE-CS Joint Conference on Digital Libraries*, pages 237–238, 2016. (**Best Poster Award, 3rd place**).

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## Service

### 2024 **Journal Editor**

- PeerJ - Computer Science

### 2023 **PC Member/Peer reviewer**

- ACM/IEEE Joint Conference on Digital Libraries (JCDL)
- ACM Web Science and TheWebConf2023-Companion (CySoc 2023)
- iPRES2023 and EPJ Data Science

### 2022 **PC Member**

- ACM/IEEE JCDL

### 2021 **Tutorial/Workshop Chair, peer reviewer**

- Tutorial and Workshops Chair, ACM/IEEE JCDL
- Reviewer, ACM/IEEE JCDL

### 2020 **Journal/Conference reviewer**

- PLoS ONE
- ACM/IEEE Joint Conference on Digital Libraries
- ACM Web Science

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## Publications - Selected Blog posts

- 2021-05-10 [Chronicling the life-cycle of top new stories with StoryGraphBot](#)
- 2020-01-20 [366 dots in 2020 - top news stories of 2020](#)
- 2020-09-28 [My report card to my mother](#)
- 2020-08-31 [DNC vs RNC pulses - Quantifying news attention for the DNC and RNC with StoryGraph](#)
- 2020-08-10 [StoryGraph, reading the news for three years, a look at the past and the future](#)
- 2020-01-04 [365 dots in 2019 - top news stories of 2019](#)
- 2019-09-09 [Introducing sumgram, a tool for generating the most frequent conjoined ngrams](#)
- 2019-06-05 [Joint Conference on Digital Libraries \(JCDL\) 2019 Trip Report](#)
- 2019-03-05 [365 dots in 2018 - top news stories of 2018](#)
- 2018-08-14 [Revealing Data: Why We Need Humans To Curate Web Collections](#)
- 2018-07-18 [HyperText and Social Media \(HT\) Trip Report](#)
- 2018-06-08 [Joint Conference on Digital Libraries \(JCDL\) 2018 Trip Report](#)
- 2018-05-04 [An exploration of URL diversity measures](#)

2018-03-04 [Installing Stanford CoreNLP in a Docker Container](#)  
 2017-08-27 [Media Manipulation research at the Berkman Klein Center at Harvard University Trip Report](#)  
 2017-06-29 [Joint Conference on Digital Libraries \(JCDL\) 2017 Trip Report](#)  
 2017-04-18 [Local Memory Project - going global](#)  
 2017-03-20 [A survey of 5 boilerplate removal methods](#)  
 2017-01-23 [Finding URLs on Twitter - A simple recommendation](#)  
 2016-11-16 [Introducing the Local Memory Project](#)  
 2016-10-26 [A look back at the 2008 and 2012 US General Elections via Web Archives](#)  
 2016-09-09 [Summer Fellowship at the Harvard Library Innovation Lab Trip Report](#)  
 2016-07-18 [Tweet Visibility Dynamics in a Tweet Conversation Graph](#)  
 2016-06-23 [Joint Conference on Digital Libraries \(JCDL\) 2016 Trip Report](#)  
 2016-05-31 [Can I find this story? API: Yes, Google: Maybe, Native Search: No](#)  
 2016-03-07 [Archives Unleashed Web Archive Hackathon Trip Report \(#hackarchives\)](#)  
 2015-07-22 [I Can Haz Memento](#)  
 2015-02-05 [What Did It Look Like?](#)  
 2014-11-14 [Carbon Dating the Web, version 2.0](#)

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## Selected Invited Presentations

2021-10-13 [StoryGraph: quantifying the attention of news stories through near-real time story link detection](#) , Knight Foundation Tool Demo  
 2021-09-28 [Leveraging the domain expertise of social media users to generate seeds for web archive collections](#) , CS Colloquium, Old Dominion University (ODU), Norfolk, VA  
 2021-08-28 [Garbage, Glitter, or Gold: Assigning Multidimensional Quality Scores to Social Media Seeds for Web Archive Collections](#) , ACM/IEEE JCDL 2021  
 2021-03-25 [OSoMe Tools](#) , Bloomington High School, Bloomington, IN  
 2021-02-10 [365 Dots in 2018, 2019, and 2020: Quantifying Attention of News Sources](#) , Computational + Journalism Symposium, Northeastern University, Boston, MA  
 2021-02-02 [My Research Story/Experience](#) , CS 800, ODU  
 2020-08-05 [My Research Experience](#) , Web Archiving And Digital Libraries Workshop Panel  
 2020-05-18 [Bootstrapping Web Archive Collections From Micro-collections In Social Media](#) , Virginia Modeling, Analysis & Simulation Center, Suffolk, VA  
 2020-03-26 [Bootstrapping Web Archive Collections From Micro-collections In Social Media](#) , University of Denver, Denver, CO  
 2019-08-21 [Masters/PhD program survival guide](#) , ODU  
 2019-06-04 [Using Micro-collections in Social Media to Generate Seeds for Web Archive Collections](#) , ACM/IEEE JCDL 2019, Urbana-Champaign, IL  
 2019-04-29 [Bootstrapping Web Archive Collections From Micro-collections In Social Media](#) , PhD Candidacy Proposal, ODU  
 2018-07-11 [Bootstrapping Web Archive Collections from Social Media](#) , ACM Hypertext and Social Media (HT 2018), Baltimore, MD  
 2018-06-05 [Scraping SERPs for Archival Seeds: It Matters When You Start](#) , ACM/IEEE JCDL 2018, Fort Worth, TX  
 2017-08-04 [Primitive analyses for studying media manipulation](#) , Harvard Library Innovation Lab, Cambridge MA  
 2017-07-27 [Introduction to Programming with Python](#) , Harvard University Skill Share, Cambridge MA  
 2017-06-21 [Local Memory Project](#) , ACM/IEEE JCDL 2017, Toronto ON, Canada