Keith McNamara, Jr.

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Education

- Ph.D. student in Human Centered Computing   Sept 2018 – Present
  Graduate Research Assistant, under Dr. Juan Gilbert
  University of Florida

- Bachelor of Science in Computer Science,   Sept 2014 – May 2018
  University of Maryland, Baltimore County

Research Experience

Graduate Researcher
University of Florida – Computer and Information Science and Engineering Department

- Multi-modal Explainable AI

- Online Political Media and Disinformation
  - Created a survey with real and fake videos that were found online and prompted users to respond to these videos with their belief of whether the video was real or fake. The videos were also described to the user as being real or fake (both truly and falsely) determined by a news source provided by the user in the demographic section
    - Analyzed data and performed statistical analysis to determine which videos people were most susceptible to
  - Developed a survey that presented videos of political figures paired with fabricated news sources and headlines and prompted participants to provide their responses and interpretations to those videos
    - Analyzed correlations with demographic information and political affiliation on responses to the videos
    - Conducted statistical analyses on the correlations to determine vulnerability to users and the potential impact on political processes

- Should I Answer? Measuring User Responses to Anti-Robocall Indicators
  - Conducted user studies to evaluate user experience with spam calls
  - Tested a prototype application to gauge various experiences with different app designs
  - Performed statistical analysis on data collected to discuss results and visualize information

- The Effects of Native Language Consistency on Learners' Introduction to Block-Based Instructional Technologies
  - Conducted a study of native language impacts on introductory performance to programming

- The Effects of Distraction on Information Retention in Augmented Reality Education

o   Conducted a study of distractions on information retention in education through an augmented reality platform

Undergraduate researcher, under Dr. Marie desJardins   Dec 2016 – May 2018
University of Maryland, Baltimore County (UMBC) – Computer Science and
Electrical Engineering Department- Maple Lab

- Conducted independent research comparing results of MAXQ and RAMDP learning models for runtime, learning rates, and task completions Dec 2016 – May 2018

- Cooperatively facilitated a team to work on theoretical applications for AMDPs and POMDPs

- Led a project for development of a partially observable MDP (POMDP) learning domain called Rock Sample

  o   Information hidden from the learning agent until interaction with parts of the domain

  o   Project to be used to test with AMDP research

- Worked on creation of learning agent domains for Markov Decision Process (MDP) and Abstract MDP (AMDP)

- Participated in a team dedicated to furthering graduate work on concept formation

Research assistant, group of Dr. Ivan Erill   2013-2014
UMBC – Department of Biological Sciences – Bioinformatics – Erill Lab

- Conducted research utilizing algorithms to find transcription factor binding motifs

- Compared transcription factors in multiple organisms to find the binding

Technical Experience/Additional Projects

Graduate Student
University of Florida – Computer and Information Science and Engineering Department

- Sea Level Rise Virtual Reality Project   September 2018 - December 2018

  o   Designed a virtual reality experience for museum attendees to learn about sea level rise in an exhibit for the University of Florida Museum of Natural History

    ▪   Utilized the Unity Game Engine to design a virtual environment

    ▪   Programmed scripts in C# and added natural effects and user interaction

- Ada Chatbot   September 2019 - December 2019

  o   Created a chatbot agent designed to assist users with learning about computer science and a famous woman in computer science

  o   Implemented with Google DialogFlow

Graduate Courses Taken

- Machine Learning – Fall 2020

- Analysis of Algorithms – Spring 2020

- Computer Networks – Spring 2020

- Information Visualization – Fall 2019

- Spoken Dialog Systems – Fall 2019

- Research Methods for Human Centered Computing – Spring 2019

- Human-Computer Interaction – Spring 2019

- User Experience Design – Fall 20118

- VR for the Social Good – Fall 2018

Publications

- K. McNamara, I. Sherman, F. Tavassoli, J. D. Louis and J. E. Gilbert, "On media and disinformation: Examining viewer judgment of political video authenticity," 2021 IEEE International Symposium on Technology and Society (ISTAS), 2021, pp. 1-9, doi: 10.1109/ISTAS52410.2021.9629120.

- Sherman, I., Bowers, J., McNamara, K., Gilbert, J.E., Ruiz, J., & Traynor, P., (2020) Are You Going to Answer That? Measuring User Responses to Anti-Robocall Application Indicators, In Proceedings of the ISOC Network & Distributed Systems Security Symposium (NDSS).

- Feijóo-García, P.G., McNamara, Jr. K., & Stuart, J. (2020). The Effects of Native Language on Block-Based Programming Introduction: A Work in Progress with Hispanic Population. 2020 Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT) [**preprint**, accepted on November 10, 2019]

- Pedro G. Feijoo-Garcia, Keith McNamara, Jr., and Jacob Stuart. 2019. Work in Progress: Native Language Consistency Effect on Learners' Introduction to Block-Based Instructional Technologies. In Proceedings of the 20th Annual SIG Conference on Information Technology Education (SIGITE '19). Association for Computing Machinery, New York, NY, USA, 147. DOI: https://doi.org/10.1145/3349266.3351368

Teaching Experience

- **Undergraduate Teaching Assistant**   Sept 2017 – May 2018
  Served as a teaching assistant for Ethical Issues in Information Technology
  Graded papers and evaluated student assignments related to topics being discussed
  in the class

Awards/Recognitions

- Google Human-Experience Research Lab Fellowship   2021

- University of Florida CISE Generation NEXT Scholarship   2019
- McKnight Doctoral Fellowship   2018
- Graduate Student Preeminence Award   2018
- UMBC Meyerhoff Scholars Program   2014
- Wyatt-Martin & Associates Scholarship   2014
- Mark Thomas Hopkins Memorial Scholarship   2014

Domain Area Interests

- **Machine Learning and Explainable AI.** I am interested in explainable AI and ML because I believe these systems need to be more readily understood. My hope is that we can have tools and algorithms that more the general population can understand and experts can include more granular information to suit their needs. I would like to help marginalized and disparate communities gain more awareness of these technologies so they can make more informed decisions when using them.

- **Chatbots/Conversational Interfaces.** The development and application of chatbots and conversational interfaces. I want to develop technologies that can be applied in various domain areas but help to improve the current interactions of existing technologies. With these chatbot technologies, I want to increase the use of these systems and further expand the experiences people can have as opposed to more conventional technologies.

- **Misinformation/Disinformation.** One area of interest I have is combatting the spread of misinformation and disinformation, especially to vulnerable communities. I also hope to develop systems that provide transparency and traceability of information flows and allow easier verification capabilities for various at-risk communities.

Conferences Attended

- IEEE International Symposium on Technology and Society   November 2021
- Bots and Assistants Conference   November 2020
- Richard Tapia Diversity in Computing Conference   September 2020
- Richard Tapia Diversity in Computing Conference   September 2019
- National Society of Blacks in Computing Conference   August 2019
- Richard Tapia Diversity in Computing Conference   September 2018
- 44th National Society of Black Engineers   March 2018
- ITSMF Conference   June 2015

References

Dr. Juan E. Gilbert
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Dr. Marie desJardins

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Dr. Ivan Erill
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