**Myranda Uselton Shirk**

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Data scientist with experience in software development, physical science research, and interdisciplinary collaboration

**Education**

**Vanderbilt University – Nashville, TN**  August 2020 – present

* *Degree:* M.S. in Data Science
* *Accomplishments:*
  + NSF INTERN Fellow (2021-2022) – stipend and travel funding for pursuing government work experience as a graduate student
  + Graduate Fellow (2020-2022) – full tuition scholarship for the Data Science M.S. program
  + Neurodiversity Inspired Science and Engineering (NISE) Fellow (2020-2022) – a NSF-sponsored traineeship that encourages interdisciplinary research supporting neurodiversity

**Middle Tennessee State University (MTSU) – Murfreesboro, TN**  August 2016 – May 2020

* *Degree:* B.S. in Chemistry, minors in Computer Science,Mathematics
* *Accomplishments:*
  + President’s Award (2019) – highest university honor given once a year to one student at MTSU who exhibits exceptional leadership skills, academic accomplishments, and community impact
  + Honors College – completion of 25 hours of Honors coursework as well as independent research thesis
  + Awards – Dr. James H. and Betty S. Hutchinson Scholarship for professional chemistry (2018-2020), Hypercube Award for computational chemistry, Paul W. Martin, Sr., Scholarship (2018-2020) for Honors College leadership

**Employment**

**Physical Scientist – Data Science Pathways Employee**

NOAA National Centers for Environmental Information (NCEI), Archive Branch February 2021 – present

* *Responsibilities:* creating a semantic model for dataset linking, exploring metadata relationships through graph networks, and transitioning NCEI data to cloud infrastructure

**Graduate Research Assistant**

Vanderbilt University**,** Department of Physics and Astronomy October 2020 – May 2021

* *Responsibilities:* Maintaining Filtergraph, a web-based data visualization tool, and utilizing data science research methods for interdisciplinary research teams

**Mixed Reality Software Developer Intern**

NASA Glenn Research Center**,** Graphics and Visualizations (GVIS) Lab August 2019 – December 2019

* *Responsibilities:* Developing augmented and virtual reality applications for the Graphics and Visualization (GVIS) lab
* *Accomplishments:* Completion of 4 projects for the zSpace and Magic Leap devices, which are now shown on NASA GRC tours of the GVIS lab. Presentation in Washington, D.C., to the House of Representatives. Co-lead several outreach activities outside of work requirements including mentoring high school students in data science, demonstrating apps at local schools and museums, and playing clarinet for the NASA Glenn Band

**Software Developer**

James E. Walker Library**,** Library Technology August 2018 – May 2020

* *Responsibilities:* Developing augmented reality (AR) programs for simulation and education purposes
* *Accomplishments:* Completion of two projects for the Microsoft HoloLens and Magic Leap devices. Promotion to higher pay scale in 2019

**Projects and Research**

**Fractal Metadata** May 2021 – present

* *Description:* semantic graph modeling project which aims to link related datasets in the NCEI archive to enable easier dataset discovery and understandability

**Jobs for Humanity**  October 2020 – present

* *Description:* Data scientist and founding member of nonprofit aimed at increasing job access to underemployed communities

**NASA – zSpace Development**  August 2019 – December 2019

* *Project Titles:* “NASA Concept Vehicles,” “Mars Lab”
* *Description:* XR programs developed using Unity and Visual Studio for the zSpace. Apps allow users to investigate and dissect future NASA vehicles or analyze the surface of Mars using rover instruments

**NASA – Magic Leap Development**  August 2019 – December 2019

* *Project Title: “*James Webb Space Telescope”
* *Description:* AR app developed in Unity and Visual Studio for the Magic Leap that allows users to explore and learn about the James Webb Space Telescope and its mission

**Honors Undergraduate Thesis**  November 2018 – March 2020

* *Faculty Mentor:* Dr. Amy Phelps
* *Project Title: “*MoleculAR Visualization: Demonstrating Molecular Geometry through Augmented Reality”
* *Description:* Development of an augmented reality program on the Magic Leap One for use in general and organic chemistry labs. Thesis defended in Spring 2020.

**Undergraduate Research – Analytical and Biochemistry**  September 2018 – December 2018

* *Faculty Mentor:* Dr. Beng Guat Ooi
* *Description:*Using spectroscopic techniques to determine the chemicals present in color run powders and assess their impact on human health

**Undergraduate Research – Computational Chemistry**  April 2017 – May 2018

* *Faculty Mentor:* Dr. Jing Kong
* *Description:* Refining of density functional methods for use in computational sciences
* *Awards:*Undergraduate Research and Creative Activity (URECA) Silver Scholar Grant (2018), URECA Assistant Grant (2017)

**Selected Presentations and Publications**

Uselton, M. (2021, March). *Data Science to Expand Job Diversity.* Featured presentation at Women in Data Science Nashville regional conference.

Uselton, M. (2019, June). Investigating quantum computation. *Scientia et Humanitas 2019*.

Uselton, M., et al. (2019, February). *Augmented Reality to Improve Student STEM Success.* Poster session presented at annual Tennessee STEM Education Research Conference.

Uselton, M. & Kong, J. (2018). *Analyzing Single-Molecule Magnets with Density Functional Theory.* Poster session presented at Middle Tennessee State University Scholars Week.