

# Rebecca Faust

4th year PhD Student  
Department of Computer Science  
University of Arizona

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## Research Interests

- Data Visualization, Exploratory Data Analysis

## Education

PhD in Computer Science  
University of Arizona  
Advisor: Carlos Scheidegger

Aug. 2016 - Present  
Tucson, AZ

Bachelor of Science in Computer Science  
Bachelor of Arts in Mathematics  
University of Montana  
GPA: 3.94, High Honors

Aug. 2012 - May 2016  
Aug. 2012 - May 2016  
Missoula, MT

## Research Projects

### **Anteater**

June 2017 - Present

- Interactive Visualization for Program Understanding

### **DimReader**

Sep. 2016 - June 2018

- Axis Lines to Explain Non-Linear Projections

## Work Experience

### **Engineering Laboratory, NIST**

Gaithersburg, MD

GMSE Summer Fellow

June-Aug. 2018, June - Aug. 2019

- Understanding and debugging data science programs from program traces using visualization

### **Department of Computer Science, The University of Arizona**

Tucson, AZ

Research Assistant

Aug. 2016 - Present

- DimReader- Explaining nonlinear dimensionality reductions through the small perturbations of data
- Anteater - Interactive visualization of program executions for debugging and understanding

## **Agile Data Solutions**

Software Testing and Development

Missoula, MT

May 2014 - Dec. 2015

- Testing and front end development of the content categorization software developed by Agile Data Solutions

## **Honors and Awards**

NIST GMSE Fellowship

May 2018 - Present

University of Arizona Computer Science Graduate Research Award

May 2019

Galileo Circle Scholar

May 2018

University of Arizona Graduate Fellowship

Aug. 2016

Mortar Board Outstanding Senior Award in Computer Science

May 2016

Mortar Board Outstanding Senior Award in Mathematics

May 2016

Montana University System Scholarship - full tuition waiver

Aug. 2012 - May 2016

University of Montana Honors Scholarship

Aug. 2012 - May 2016

## **Conference Publications**

- *DimReader: Axis Lines that Explain Non-linear Projections*. R. Faust, D. Glickenstein, C. Scheidegger. IEEE Transactions on Visualization and Computer Graphics (Proceedings of IEEE Vis 2018, 25.7% acceptance rate)

## **Other Papers**

- *Anteater: Interactive Visualization for Program Understanding*. R. Faust, K. Isaacs, W. Bernstein, M. Sharp, C. Scheidegger. Arxiv, arXiv:1907.02872.

## **Talks**

- “DimReader: Axis Lines that Explain Non-Linear Projections”, IEEE VIS Conference, Berlin, Germany, October 23, 2018

## **Service**

**Conference Reviewer:** IEEE VIS, Eurovis.

**Department and University Service:**

- Treasurer  
Graduate Student Council  
University of Arizona Computer Science Department  
Sept. 2018 - Present
- Graduate Student Member  
Department Head 5-year Review Committee  
Mar. 2018 - May 2018

- Graduate Student Member Sept. 2019 - Present  
Computer Science Department 7-year Academic Program Review Committee

## Computer Skills

**Programming Languages:** Python, Javascript, HTML, C/C++, SQL, C# R

**Libraries and Tools:** Numpy, Scikit learn, D3, Vega-lite