

# Rebecca Faust

Postdoc  
Department of Computer Science  
Virginia Tech

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## Research Interests

- Data Visualization, Exploratory Data Analysis

## Education & Professional Experience

Postdoctoral Researcher Virginia Tech Mentor: Chris North	Jan. 2022 - Present Blacksburg, VA
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PhD in Computer Science M.S. in Computer Science University of Arizona Advisor: Carlos Scheidegger	Aug. 2016 - Dec. 2021 Aug. 2016 - May 2020 Tucson, AZ
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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
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## Research Projects

<b>Anteater</b> <ul style="list-style-type: none"><li>• Interactive Visualization for Program Understanding</li></ul>	June 2017 - Present
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- Understanding Diffs of Program Traces Through Interactive Visualization

<b>DimReader</b> <ul style="list-style-type: none"><li>• Axis Lines to Explain Non-Linear Projections</li></ul>	Sept. 2016 - June 2018
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## 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)
- *Anteater: Interactive Visualization for Program Understanding.* R. Faust, K. Isaacs, W. Bernstein, M. Sharp, C. Scheidegger. Arxiv, arXiv:1907.02872.

## Honors and Awards

Computing Innovations Postdoctoral Fellowship	Jan. 2022 - Present
NIST GMSE Fellowship	May 2018 - Dec. 2021
University of Arizona Computer Science Graduate Teaching Award	May 2021
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

## Teaching

<b>Instructor - University of Arizona</b>	Summer 2020, Summer 2021
• CSc 245 - Introduction to Discrete Structures (Remote/Online) Instructed a class of about 60 students. The course was taught fully online.	

## Talks

- “DimReader: Axis Lines that Explain Non-Linear Projections”, IEEE VIS Conference, Berlin, Germany, October 23, 2018
- “A Visualization First Perspective on Understanding Program Behavior”, Colloquium at University of Montana, November 30, 2021

## Service

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

**Department and University Service:**

- Treasurer  
Graduate Student Council  
University of Arizona Computer Science Department  
Sept. 2018 - May 2020
- Graduate Student Member  
Department Head 5-year Review Committee  
Mar. 2018 - May 2018
- Graduate Student Member  
Computer Science Department 7-year Academic Program Review Committee  
Sept. 2019 - Feb. 2020

## Work Experience

<b>Engineering Laboratory, NIST</b>	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 - Dec. 2021

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

**Agile Data Solutions** Missoula, MT  
Software Testing and Development May 2014 - Dec. 2015

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

## Computer Skills

**Programming Languages:** Python, Javascript, HTML, C/C++, SQL, C#, R  
**Libraries and Tools:** Numpy, Scikit learn, D3, Vega-lite