Rebecca Faust

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 — Aug. 2016 - Present
University of Arizona — Tucson, AZ
Advisor: Carlos Scheidegger

Bachelor of Science in Computer Science — Aug. 2012 - May 2016
Bachelor of Arts in Mathematics — Aug. 2012 - May 2016
University of Montana — Missoula, MT
GPA: 3.94, High Honors

Research Projects

Anteater — June 2017 - Present

- Interactive Visualization for Program Understanding

DimReader — Sept. 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 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

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

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.

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 Sept. 2018 - Present
  Graduate Student Council
  University of Arizona Computer Science Department

- Graduate Student Member Mar. 2018 - May 2018
  Department Head 5-year Review Committee

- 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