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

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

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

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 - Feb. 2020
  Computer Science Department 7-year Academic Program Review Committee

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

Computer Skills

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