

Tanya Jeffries

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EDUCATION

University of Arizona (Tucson, AZ)—PhD Computer Science

Current GPA: 4.0

Current research: Computer vision algorithms, image processing

Relevant coursework: Computational Data Science, Graph Theory, Topics Course (Visual Analysis of Software Systems), Computer Vision, Probabilistic Graphical Models (in progress)

University of New Mexico (Albuquerque, NM)— Masters of Computer Science (graduated with distinction)

GPA: 3.93, graduated with distinction

Relevant coursework: Geometric and Probabilistic Methods in CS, Complex Adaptive Systems, Intro to AI, Algorithms and Data Structures, Specification of Software Systems, Computer Networks, Fundamentals of Software Testing, Intro to Database Management Systems

Master's Thesis: designed, implemented, and evaluated methods for unweighted, weighted, and bottleneck bipartite crossing minimization.

University of New Mexico (Albuquerque, NM) — B.A. Economics, Minor in Mathematics (graduated phi beta kappa and summa cum laude)

Graduating GPA: 4.19.

Relevant Mathematics Coursework: Intro to Graph Theory, Modern Algebra I, Real Analysis, Complex Analysis, Mathematical Statistics I and II, Probability, Matrix Theory, Number Theory, Numerical Analysis, Intro to Differential Equations

TEACHING & RESEARCH EXPERIENCE

University of Arizona (Tucson, AZ) — Research Assistant

AUGUST 2017 - MAY 2018

Worked on a people tracking project (“stereo gaze”) for Dr. Kobus Barnard. Responsibilities included: shooting videos for data collection, assigning project tasks to undergrads, writing project documentation, video annotation and preprocessing, literature research, and algorithm evaluation.

SKILLS

Languages and libraries: Java (3 years), JavaScript(1.5 years), Python (3 years), Matlab (1 year), HTML5 Canvas, D3.js

IDE's and software tools used: Eclipse, Netbeans, ant, Git

Research Interests: computer vision algorithms, graph theory, combinatorial optimization, graph drawing algorithms

Databases and Query

Languages Used: Neo4j, MySQL, Graph Query Languages (Cypher and Gremlin)

Operating Systems: Windows, Linux, Mac OSX

Other Skills: requirements analysis and writing, software testing, communication and leadership, Microsoft Excel, Microsoft Office

AWARDS

University Fellows Fellowship award from the University of Arizona (2016–2017) (Most prestigious scholarship at the university). \$30,000 award, only given to 24 of all incoming PhD students from all departments

(2016–2017): **University Fellows Fellowship**

University of Arizona (Tucson, AZ) — Research Specialist

JULY 2016 - AUGUST 2016

Assisted Dr. Kate Isaacs with HPC (high performance computing) data visualization. Duties included analyzing samples of trace data, brainstorming visualization designs for them, and writing up code to create sample images for the designs.

University of New Mexico (Albuquerque, NM)— Graduate Research Assistant and teaching assistant

AUGUST 2014 - JANUARY 2016 (RESEARCH ASSISTANT)

Assisted Dr. Thomas Hayes with research on spin systems and recommendation systems. Also conducted bipartite graph drawing research.

AUGUST 2013 - MAY 2014 (TEACHING ASSISTANT)

TA'd for an undergraduate discrete math and algorithms course. Held weekly office hours, created homework solutions, and graded homeworks.

New Mexico Highlands University (Las Vegas, NM)— Graduate Assistant

AUGUST 2012 - MAY 2013

Fall 2012 semester: Taught an intermediate level undergraduate Java programming course.

Spring 2013 semester: Lectured on select database topics and assisted as TA for a database course(e.g. Neo4j, Cypher and Gremlin query languages).

SOFTWARE ENGINEERING EXPERIENCE

Requirements Specification Writing

Wrote requirements specification documentation for a customer as part of a graduate software engineering course. As team lead my responsibilities included: participating in and overseeing requirements writing, holding team meetings for requirements elicitation, requirements analysis and writing.

Software Testing

Lead and worked on a software testing project for a graduate level software engineering course. My team and I tested an open source graph drawing application. As team lead I allocated tasks to team members, did exploratory testing, documented bugs, and put together a final test documentation report.

scholarship tuition award

Graduated with distinction (honors): University of New Mexico May 2016, M.S. Computer Science

Graduated Summa Cum Laude: University of New Mexico July 2010, B.A. Economics

Phi Beta Kappa: University of New Mexico, Chapter: Alpha of New Mexico, Spring 2009

CONFERENCES/WORKS HOPS ATTENDED:

Rocky Mountain
Mathematics Consortium
Summer School 2013
Algebraic Graph Theory

IEEE Vis 2016

Mathematics Research
Communities-2017: Beyond
Planarity: Crossing Numbers
of Graphs

UA-ASU Cognitive Science
Conclave 2017 (presented
poster)

COMMUNITY ENGAGEMENT:

October 2, 2016: Homeless
Shelter Volunteer at Tucson
Z-Mansion

November 20, 2016: Humane
Society Animal Shelter
Volunteer

Spring 2017 semester:

SIDE PROJECTS

Project Name — The Graph Enthusiast (graph theory blog)

Personal blog devoted to mathematics and computer science with an emphasis on graph theory. Blog posts cover research topics, programming, and independently created data visualizations.

<http://torus2torus.blogspot.com/>

REFERENCES:

Dr. Thomas P. Hayes, Associate Professor of Computer Science, University of New Mexico. Email: Hayes@cs.unm.edu, Office: Farris Engineering Center Room 3130, Office Phone: 505-277-9328

Dr. Shuang Luan, Associate Professor of Computer Science, University of New Mexico. Office: Farris Engineering Center Room 3110, Email: Sluan@cs.unm.edu, Office Phone: 505-277-9620