

Katherine Elizabeth Brown | Curriculum Vitae

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Education

Tennessee Technological University – Ph.D., Computer Science

Area of Emphasis: Knowledge Discovery

Advisor: Dr. Doug Talbert

Cookeville, TN

Expected Completion:

May 2023

Tennessee Technological University – M.S., Computer Science

Area of Emphasis: Knowledge Discovery

Advisor: Dr. Doug Talbert

Cookeville, TN

Expected Completion:

December 2019

Tennessee Technological University - B.S., Mathematics

Major GPA: 3.93

Cookeville, TN

Expected Completion:

May 2020

Tennessee Technological University – B.S., Computer Science

Concentration: Data Science

GPA: 3.96/4.0

Summa cum laude

Cookeville, TN

August 2014 - May 2018

Awards and Accolades

Research and Creative Inquiry Award Winner

April 2018

Division: Undergraduate Computer Science

Poster Title: Multi-Task Correlation-Based Feature Selection for Gene Expression Data

Engineering, Computing and Technology Spectrum Award

February 2018

Co-winner in Computer Science as recognition for my initiatives and achievements in educational, research, and professional development activities.

Kappa Mu Epsilon

April 2015

Collegiate Mathematics Honors society. Inducted based upon success in mathematics courses and ranking in the upper 35% of my graduating class

Undergraduate Scholarships

Mrs. Vijayalaxmi Patil Scholarship	2017-2018
Mary Patterson Computer Science Scholarship Endowment	2016-2017
Stanley Erwin M.D. Scholarship	2016-2017
R.H. Moorman Memorial Award	2016-2017

Research Experience

Graduate Research Assistant — Tennessee Technological University Design experiments in the areas of Artificial Intelligence, Machine Learning, and Healthcare Informatics. Develop computational solutions to research tasks. Write and present scholarly works.	August 2018 - Present
Research Intern — Oak Ridge National Laboratory Participant in the Higher Education Research Experience (HERE) Program within the Biomedical Computing Division. Developed a bio-informatics machine learning platform with Python and Sci-Kit Learn.	Summer 2017
Undergraduate Research Assistant — Tennessee Technological University Conducted research in machine learning and healthcare informatics. Co-authored scholarly works. Programmed solutions to various research problems.	March 2016 - August 2018

Teaching Experience

Undergraduate Teaching Assistant —Tennessee Technological University Evaluated quizzes, exams, and assignments in various Computer Science courses. Tutored students. Assisted in designing and administering laboratories. Courses include: <ul style="list-style-type: none">▫ Computer Organization and Assembly Language (Fall 2016)▫ Data Structures and Algorithms with Lab (Summer 2016)▫ Object-Oriented Programming and Design (Spring 2016)▫ Principles of Computing (Fall 2015)	August 2015 - December 2016
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Skills and Abilities

Programming Languages

Advanced Proficiency

- Python
- R
- Java
- C++

Intermediate Proficiency

- MASM Assembly
- MySQL

Basic Proficiency

- Prolog
- PostgreSQL

Libraries

Advanced Proficiency

- Sci-Kit Learn
- Weka

Intermediate Proficiency

- SciPy
- NumPy
- Pandas

Basic Proficiency

- MySQLdb

Technologies

Advanced Proficiency

- Microsoft Office Suite
- R-Studio
- Microsoft Windows

Intermediate Proficiency

- Linux
 - Ubuntu
 - Debian
- MacOS

Basic Proficiency

- Splunk
- Splunk ITSI

Research Interests

Computer Science

- Machine Learning
- Deep Learning
- Artificial Intelligence
- Theoretical Computer Science
- Data Science
- Computer Science Pedagogy

Biomedical Informatics

- Genomic Data
- Precision Medicine

Mathematics

- Probability Theory
- Group Theory
- Numerical Analysis

Leadership and Service

**Tennessee Tech University Department of Computer Science
Student Advisory Council**

September 2018 - Present

Member

Tennessee Tech Data Science League

January 2018 - Present

Vice President (August 2018 - Present)

President (January 2018 - August 2018)

Co-Founder and Charter Member

ACM-W Chapter Leadership

August 2015 - Present

Student Mentor (August 2018 - Present)

President (August 2016-May 2018)

Vice President (August 2015 - May 2016)

TTU Functional Programming Club - Press Secretary

August 2016 - May 2017

Publications

Abstracts & Poster Presentation

1. Brown KE, Talbert DA. "Multi-Task Correlation-Based Feature Selection for Gene Expression Data." To appear in *Proceedings of the American Medical Informatics Association Annual Symposium*, 2018.