SARAH F. GIBBONS

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EDUCATION

Texas State University San Marcos, TX
B.S. Computer Science, Applied Mathematics Minor *May 2019*

TECHNICAL SKILLS

Programming Languages: **Python, C++, Linux/Unix, Javascript, HTML, CSS, Pandas, NumPy, SpaCy**

EXPERIENCE

Data Science & Analytics Intern at TenantCloud *September – December 2018*

- Preprocessed data and performed statistical analysis on text in Python. Used natural language processing (NLP) methods to transform data, identify context relationship and prioritize 60k service requests
- Used predictive analytics and NLP tools such as *Spacy*, *Gensim's Word2Vec* and *topic modeling* with Latent Dirichlet Allocation (LDA) to provide compact/quantitative description of text
- Developed a supervised machine learning task to train an embedded neural network with Python library *Genism*
- Created a chatbot (retrieval-based model) using document similarity, TF-IDF and cosine similarity (sckit-learn), https://github.com/sfg11/Data-Science

Developer/ Data Science Intern at State Street *May - August 2018*

- Worked with data scientists on cognitive team using *computational linguistics, Python3* and natural language processing libraries *pandas, SpaCy***,** to develop and detect emotion/tone in text documents
- Worked on the research team using *React.js, GraphQL* to implement UX design for a common service platform that hosts different financial services

Undergraduate Research at Texas State University
Applied Mathematics (Graph Theory) *March 2017*

- Worked on a team mentored by Dr. Daniela Ferrero; explored whether an efficient algorithm could be developed to determine the zero-forcing number (a "fast-mixed search" variant in computer science) of specific graph families
- Derived a new algorithm for finding the zero-forcing number of Generalized Petersen Graphs [Publication in progress]

Undergraduate Lab Assistant at Texas State University
Tutor *June – December 2017*

- Tutored students 15 hours a week in C++ and Java. Helped students on programming assignments in Foundations of Computer Science I and II (C++), Data Structures (C++), Object Programming and Design (Java), and Computer Architecture (C++)

Undergraduate Research at Texas State University
Computer Science *June—August 2016*

- Researched exhaustive, greedy, and recursive algorithms for computing NP-Hard graph properties on structured graphs
- Produced a new lower-bound on the independence number, an NP-Hard graph invariant
- Used Python to implement the Havel-Hakimi algorithm and Maxine algorithm, https://github.com/sfg11/Graph-Theory-Algorithms-in-Python-2016

LEADERSHIP EXPERIENCE

Association of Women in Mathematics (AWM), ***President*** *August 2017—Present*
Young Mathematicians Conference 2017, ***Speaker*** *August 2017*