Collin McMahon
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EDUCATION

The University of Texas at Austin, Austin, TX *Expected May 2022*
Bachelor of Science in Computer Science and Bachelor of Science and Art in Neuroscience *GPA 4.00*
Certificates in Applied Statistical Modeling and Forensic Science
Current Coursework: Big Data Programming, Human Computer Interaction
Past Coursework: Neural Networks, AI Honors, Data Mining, Statistical Learning, Algorithms, Symbolic Programming, Bioinformatics

EXPERIENCE

Sanger Learning Center - *Tutor* *Spring 2020 – Present*
- Hold 10-15 one-on-one tutoring sessions weekly with clients in subjects such as CS, calculus, statistics, and genetics
- Develop educational and professional skills through attending workshops and forums
- Created a comprehensive packet of study materials and formulas for introductory probability and statistics in Spring 2020 to supplement the SLC's other math material and aid other tutors as well as their clients

BWI Lab - *Researcher* *Spring 2019*
- Worked to develop fully autonomous mobile robots with ROS using C++ that can become part of a building's environment with prominent research being doing in areas such as planning, reasoning, human-robot interaction, and multi-robot coordination
- Research done in computer vision and signal processing to attempt to link a speaker's voice and face with the robot

Technical/Computer Skills
- Proficient in Python (PyTorch, NumPy, scikit-learn, matplotlib), R (ggplot, dplyr, etc.), Java, and C/C++
- Experience with Hadoop/Spark for Big Data Analytics and HTML/CSS/Javascript for front-end development

PROJECTS

Project Portfolio (cloudycieux.github.io)
- Initially created in SDS 348 Bioinformatics to showcase our projects using R with various statistical learning techniques.
- Intend to update the design and content (additional projects and other interests) in the future.

Recommender System
- Used publicly available user data from myanimelist.com and various machine learning algorithms such as k-means clustering and PCA through R to analyze and visualize trends in viewer's watching habits and generate basic recommendations from them
- Generated a report with interactive visual elements through RMarkdown summarizing my research process and conclusions

Markov Chain – Random Writer
- Used Python to build a statistical model of random data and output a stream of randomly generated data similar to the original
- Implemented a Markov chain using a graph to model the probabilities with which an arbitrary token follows every possible sequence of k tokens

CAMPUS INVOLVEMENT/LEADERSHIP

Texas Taekwondo – Student Coach
- Lead weekly practices teaching poomsae and general balance, strength, and flexibility conditioning in order to prepare others to compete in various state and national level Taekwondo competitions
- Student coach for the Kicks for Kids program and actively volunteer in events such as Texas Athletics Sustainability Squad

UT Competitive Programming (UTPC), Synapse, ISSS, National Alliance on Mental Illness (NAMI) – Member