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EDUCATION

Texas A&M University, College Station, TX

Bachelor of Science in Biological and Agricultural Engineering (GPA: 3.30)

Doctoral Student in Biological and Agricultural Engineering (GPA: 4.00)

Vadose Zone Research Group

Spring 2019

Fall 2019 – Summer 2025

WORK EXPERIENCE

Teaching Assistant

Texas A&M University

August 2019 – May 2020

August 2020 – Present

- Assist with the teaching of curriculum for the engineering capstone class required for graduation.
- Tutor students over the material discussed in class.
- Provide assistance to students organizing their capstone projects and traveling itineraries, including budgets.
- Responsible for grading and providing feedback to students on their assignments.
- Inform students of upcoming events, assignments, and class meetings.

Chegg Tutor

Texas A&M University

October 2018 – January 2021

- Tutor students across the world through the Chegg on-line service.
- Assist students over live video chat, instant messenger, or drawing software.
- Tutor students in algebra, geometry, pre-calculus, calculus, physics, chemistry, GRE exam criteria, and engineering.
- Create new and efficient ways to communicate with individuals of different backgrounds and cultures.

College Course Developer

Texas A&M University

June 2020 – August 2020

- Organize Engineering Design Process material in a clear and concise manner for the professor to structure lectures from.
- Develop and design homework assignments that coordinate with lectures for students to learn to apply new information.
- Create practice tests based on topics covered in class to prepare students to perform successfully on examinations.

Environmental Engineer & Scientist Intern

Austin, TX

May 2019 – August 2019

- Conducted data analysis for bacteria found within the reaches and lakes in Austin, Texas.
- Created prediction model for the characterization of bacteria samples being taken in the future.
- Developed final report for the city of Austin to be used to present on the reallocation of resources.
- Designed presentation for the staff of watershed, showcasing my work over the summer.

Research Assistant

Texas A&M University

July 2017 – May 2019

- Worked in a BL-2 lab prepping a microbiology class for undergraduate and graduate students.
- Created media, streak samples, record data and analyze data using a variety of software.
- Prepared samples organize agendas and teach lab techniques and procedures.
- Trained undergraduate and graduate students on concepts on concepts, experimental procedures and proper lab techniques.

IT Help Desk Central

Texas A&M University

April 2017 - November 2017

- Assisted customers over the phone and in person with solving issues in a timely and efficient manner.
- Trained customers on how to manage and install programs and software on their devices.
- Collaborated with colleagues on how to improve the software systems used by Texas A&M University.
- Assisted customers with solving problems on Windows, Macintosh, and Linux operating systems.

River Pointe Church

Richmond, TX

June 2016 - August 2016

- Organized local volunteers into fields of service based on their strengths and interests.
- Collaborated with area organizations to assist the public during natural disasters.
- Created a registry of collaborating organizations to facilitate serving opportunities for the congregation.
- Advocated on behalf of local citizens to raise awareness of their needs and initiate projects to serve them.

- Pecan Grove Plantation Country Club** **Richmond, TX** **August 2015 - January 2017**
- Lead and organized staff for serving dinners to twenty or more people at a time.
 - Resolved requests and complaints from clients under high levels of pressure in a timely and efficient manner.
 - Catered special events, worked at the bar for high volume events of over 400 guests, and served tables simultaneously.
 - Managed and monitored inventory of the alcohol and food merchandise provided at the establishment.

- Briscoe Manor** **Richmond, TX** **August 2013 – June 2015**
- Prepared wedding and catering events for groups of up to four hundred guests.
 - Memorized and presented a new menu to the guests for every single event.
 - Organized staff into respective areas to setup the kitchen and reception room.
 - Bridged communication between the wedding planners and executive chef for events.

RESEARCH

- Thesis - Contaminant Transport in Vadose Zone** **Texas A&M University** **August 2019 – Present**
- Find remotely sensed covariates within the environment that serve as signatures for preferential flow
 - Utilize remote sensed data to predict the presence of preferential flow (a process that increases contaminant transport from surface to groundwater)
 - Consult on an industry project through data collection and analysis and make connections to populations experiencing cancer through contaminant transport

- FEMA Well Water Quality** **Texas A&M University** **September 2017 – May 2018**
- Analyzed the water quality of wells in Texas that were impacted by Hurricane Harvey.
 - Conducted three rounds of research on water samples to determine their coliform, turbidity and pH levels.
 - Communicated results to well owners along with solutions to improve their well water quality.
 - Created ways to communicate technical scientific terms to individuals who may not have been familiar with the terminology.

- Post-Doctoral Research Assistant** **Texas A&M University** **June 2017 – October 2018**
- Prepped media for water samples using the Kirby Bauer Method.
 - Analyzed sample results utilizing ImageJ software.
 - Gave a presentation of the research and results at the Texas Branch of American Society for Microbiology.

- REU Water Quality Research Fellowship** **Texas A&M University** **June 2017 - July 2017**
- Collaborated with other students to collect samples and data for on-site septic tanks.
 - Assisted professors in testing samples in the lab that had been gathered at the various sites.

ACADEMICS

- Texas A&M Consulting Club (TAMUGC) President** **Texas A&M University** **May 2021 - Present**
- Organize teams of 3-5 consultants to identify and solve problems for clients of start-up companies - pro bono.
 - Increase campus presence by hiring marketing and visualization students at TAMU to improve social media/websites.
 - Improve students' skill sets through providing technical and soft skill workshops.
 - Build a strong and trusting leadership team to further the mission of the organization and improve students' success.

- TAMUGC Team Leader** **Texas A&M University** **January – May 2021**
- Communicated with the client about unmet needs or challenges within the company.
 - Lead a team of 3-5 consultants to provide solutions for clients through slide decks on a bi-weekly basis.
 - Strategically planned a sustainable timeline and lead the team to a successful final deliverable to the client.

- TAMUGC Consultant** **Texas A&M University** **September – December 2020**
- Collaborated in a team of 5 to provide a solution to the unmet needs and challenges for the client.
 - Brainstormed with peers on potential solutions for the client.

- Study Abroad Participant** **Guanajuato, Mexico** **May 2019**
- Practiced Spanish language skills while living with a host family.
 - Visited and learned the General Motors manufacturing process.
 - Analyzed the PLC controller and sterilization methods utilized in an avocado factory.

- Senior Design Project** **Cuenca, Ecuador** **January 2019**
- Redesigned a waste water treatment system for the Acchayacu, Ecuador.

- Visited the site to take measurements, checked the quality of the system in place, and ran lab results of the water samples.
- Presented a professional report of the project's status to a group of professors as well as a group of students in Cuenca.
- Explored the city of Cuenca to discover their culture and lifestyle.

Study Abroad Participant

Leuven, Belgium

July 2018

- Earned credit for principles of environmental hydrology and design of biological waste treatment systems.
- Visited a drinking water production center, water treatment plants, and sustainable waste management plants.
- Studied the preservation and reuse of water to benefit the local communities and agriculture.

Just4Water Member

Texas A&M University

August 2015 – May 2019

- Designed a well manual for the installation of wells in English as well as Spanish.
- Worked alongside team members to distribute tasks for a variety of events.

VOLUNTEER

RStudio Course

Texas A&M University

October 2020 - Present

- Collaborated with a team of 4 to design an introductory RStudio coding course.
- Adjusted the course to be taught and collaborative through Zoom to nearly 50 students.
- Will be teaching our course at the Advanced Earth & Space Science (AGU) conference to hundreds of students.

Star of Hope

Houston, TX

August 2015 - Present

- Assisted with coordination of Christmas gift wrapping events by organizing volunteers into groups to best utilize their skills.
- Lead volunteers serving lunch and dinner at two Star of Hope locations.
- Assisted staff at the front desk, the children's department, and the kitchen area.

Big Event

College Station, TX

August 2015 – May 2019

- Worked alongside peers to improve the landscape around a home.
- Redirected a gutter in order to stop water from entering into a home.
- Constructed a walkway around a home by digging out a path and laying down stones.

AWARDS, CERTIFICATES, AND SKILLS

Blood Borne Pathogen Training

Texas A&M University

June 6, 2017

- Attended training and completed certification to conduct research in BL-2 labs.

Alpha Epsilon Member

April 2017

- Awarded through display of academic excellence and outstanding leadership within my major.

Software and Programming Languages

- Designed projects and analyzed data using Matlab, Python, Labview, ImageJ, R2WinBUGS, VBA, JMP Pro 15, Google Earth Pro, RStudio, ArcGIS, and SQL.

Awards

- LSAMP \$5,000 scholarship to study abroad in Belgium awarded for work in my summer REU.
- Fully paid travel scholarship to study abroad in Mexico awarded for my efforts as a host to Mexico Exchange students.
- Katy & Tony Sutherland Endowed Scholarship **Fall 2019 -Spring 2020**
- Ben T & Mattie B Little Fund – Ag **Fall 2018 - Spring 2019**
- CLAG BAEN DT Scholarships **Spring 2018 - Spring 2019**
- COADC Calvin & Peggy Parnell Scholarship **Fall 2018 - Spring 2019**

Language

- English (native), Spanish (ILR Level 2 – Limited Working Proficiency)

PUBLICATIONS

[1] Mukherjee, M.; Marie, L.; Liles, C.; Mustafa, N.; Bullerjahn, G.; Gentry, T.J.; Brooks, J.P. Elevated Incidences of Antimicrobial Resistance and Multidrug Resistance in the Maumee River (Ohio, USA), a Major Tributary of Lake Erie. *Microorganisms* **2021**, *9*, 911. <https://doi.org/10.3390/microorganisms9050911>