

Zifan(Ivan) Gu

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EDUCATION

Wofford College, Spartanburg, SC 09/2018 -
Major: Computer Science Minor: Physics, Mathematics
Emphasis: Computational Science GPA (Overall): 3.88; (Major): 3.97 GRE: 328

EXPERIENCE

Wofford College, Spartanburg, SC — Teaching Assistant 02/2019 -
Mentor: Steven Zides, Li Kinnison

- Assisting first-year engineering students to conduct experiments including gravity, friction, pendulum, fluid dynamics.
- Proofreading essays, correcting pronunciation, and expanding the cultural context behind certain phrases for Chinese majors.

Sunyard Digital Technology Co., Hangzhou, China — Software Engineer Intern 07/2019 - 08/2019
Mentor: Shenpu Xu

- Assigned authorization levels to organizations to ensure hierarchy.
- Updated the internal work journal software to map each entry with that personnel's assigned task.

PROJECTS

Heart Rate Variability Among College Students 09/2020 -
Mentor: Carolyn Martsberger

- Analyzing the hearts' responses when encountering different images using modified root mean square methods in Matlab.
- Establishing a correlation between high memory and high heart rate fluctuations.
- Study findings are in preprint for *Frontiers in Physiology*.

Heart Rate Variability in Amphibians 11/2020 -
Mentor: Carolyn Martsberger

- Collecting RR interval data on frogs for analysis with Arduino.
- Measuring the voltage across frog hearts with pulled glass capillary tubes.

Machi Koro Board Game Digitalization 09/2020 -

- Implemented Observer listener pattern to handle card activations.
- Adapted an Agile approach with test-driven development and two-week-long sprints.

Modeling and Simulation Projects 09/2020 - 11/2020

- Applied data visualization with constrained canopy growth, SIR(SARS 2002), and agent-based diene addition in R/RMarkdown.

Supervised Learning on League of Legends 06/2020 - 08/2020
Mentor: Beau Christ

- Used stepwise regression and Naive Bayes Model to predict the result of 10,000 ranked games of League of Legends.
- Pruned decision trees to produce 5 deciding factors from 38

SKILLS

Java, MatLab, Python, C++, C, R, MySQL, Git, AWS, RPG(AS400)

ADDITIONAL LEARNING

Presidential Seminar (Spring 2020)
Nominated by the Department of Computer Science to a colloquium. Discuss the department's role in a liberal arts education.

JPMorgan Chase and Co. Virtual Experience Program Participant (Summer 2020)
Displayed data visually for traders. Used JPMorgan Chase frameworks and tools to interface with a stock price data feed.

Datacamp Supervised Learning in R: Classification (Summer 2020)

AT&T Wireless Technology Series Participant (Fall 2020)
Discussed 5G, Mobility Security/Network, Automation, RAN.

HONORS AND LEADERSHIP

Dean's List (2018-2020)
Benjamin Wofford Scholar (2018)

President of Beta Beta Beta (National Biological Science Honor Society) (2018-Present)

Treasurer of Alpha Phi Omega (National Service Fraternity) (2020-Present)

LANGUAGES

Chinese(native)
English(fluent)

COVID-19 Database Inquiry

04/2020 - 05/2020

- Deployed Flask service and constructed an AJAX web client from Johns Hopkins University Database.
- Used MySQL behind the client page to show active cases, deaths, and hospital beds available versus capacities in a region.

Research Paper: Physics and Medical Application of MRI

10/2019 - 12/2019

- Examined the history, principles, and applications of Magnetic Resonance Imaging in cardiology and oncology.

Weather Application

10/2018 - 12/2018

- Fetched current weather information through OpenWeatherMap API.
- Created a GUI to allow users to input locations within the US.
- Read in JSON files to display information and icons on the GUI.

**COMMUNITY
INVOLVEMENT****Alpha Phi Omega**

Packed Halloween candy bags for elementary students. Hiked and maintained the Mt. Cammerer trail in the Great Smoky Mountains National Park.

Habitat for Humanity

Build safe and affordable houses by working over 20 hours per week during January 2020.