# Logan Schelly

(951) 692-8802 • idyllogan@verizon.net

## Education

**Bachelors of Science in Mathematics**                                                 April 2020
Brigham Young University                                                       GPA: 3.17 out of 4.0

- Applied and Computational Mathematics Emphasis (ACME)
- Computer Science Minor
- Recognized for outstanding performance in Mathematics in 2020 and 2018

## Skills

### Programming Languages

| Python | Very Comfortable | used in 8 lab classes and 4 lecture classes |
|---|---|---|
| C | Proficient | used in 2 lecture classes |
| JavaScript | Beginner | self taught at javascript.info, and listed as a contributor |
| Java | Proficient, but rusty | used extensively in 1 lecture class |
| C++ | Proficient, but rusty | used in 3 lecture classes |

### Other Tools

- LaTeX– Proficient
- Spreadsheets – Proficient
- Git – Intermediate
- HTML – Beginner

### Soft Skills

Tutoring • Attention to Detail • Troubleshooting • Public Speaking • Leadership • Project Coordination

## Work Experience

Head Upper Division Tutor                                                           Provo, UT
BYU Math Lab                                                              Sep 2014 – April 2020
- Tutored Linear Algebra, Multivariable Calculus, Differential Equations, and Mathematical Proof classes.
- Conducted weekly meetings to help our team of 10-20 upper division tutors prepare for that week's concepts.
- Coordinated exam reviews, and often taught them. 10 to 200 students attended, depending on enrollment and subject.

## Projects

Math Lab Student Sign Up Analysis                                         Fall 2019 – Winter 2020
- Consolidated data spread across 60+ Excel files.
- Used Pandas to analyze the almost 900,000+ instances of students signing up for tutor help.
- Identified busiest times of the week, and the topics students most often came in for help with.
- Advised scheduling more tutors in the mornings based on my findings.

HTTP Proxy                                                                        Winter 2020
- C program that relayed user requests to end server, and relayed server responses to user.
- Used `regex.h` to verify that user requests met HTTP formatting requirements.
- Handled concurrent requests with a threadpool using `pthread.h` and `semaphore.h`.

DNS Stub Resolver                                                                 Winter 2020
- Program interfaced with DNS servers to look up IP addresses associated with a web domain name. For example, it would figure out that the domain name www.example.com is associated with IP address 93.184.216.34.
- Formatted queries to DNS standards, sent the queries with UDP, and then decoded responses.
- Written C with `unistd.h`, `sys/socket.h`, `arpa/inet.h`, and `netinet/in.h`.

Inverted Pendulum Control                                                         Winter 2019
- Modified the Python code from the CartPole-v1 environment of OpenAI's gym library.
- Updated from Euler's method to Runge-Kutta.
- Applied an LQR control scheme to keep the pendulum upright.

Android App – Family History Map                                                  Summer 2018
- Wrote both the client and server in Java.
- Displayed family history data with a Google MapFragment.
- Implemented activities for log-in, map interaction, life event details, and app settings.
- Wrote the SQL commands that the server would use to store and retrieve user data.