JAMES R. SHADDIX

(209) 207-8458 | jimmy.shaddix2.0@gmail.com | github.com/Jim-Shaddix | jshaddix.com

Education:

Colorado State University
B.S. in Computer Science   (*August 2014 — May 2019*)
B.S. in Applied Physics   (*August 2014 — May 2019*)
GPA: Total: 3.0   Last Two Semesters: 3.5

Skills:

- Adept Languages: Python, SQL, C++, MATLAB, BASH/GIT command line, LaTeX.
- Familiar Languages: C, C#, Java, Javascript, HTML/CSS,
- Adept Python Libraries: NumPy, Pandas, Matplotlib, Dash, Plotly, Click, Unittest.

Employment:

- **Physics Research Assistant**—(June 2018 – Present)
  Colorado State University Dept. Physics
  - *MATLAB*: Developed a GUI that interactively used signal processing techniques for finding, fitting, and tracking peak fits on experimental data.
  - *Python*: Developed a web dashboard application using the Dash framework that allows for users to interactively view 3D data from a neutron scattering experiment.
- **Software Engineer**—(May 2016 – August 2016)
  Colorado State University Energy Institute
  - *C#*: Created a visual model of the electric load of a town using a circuit controlled from a Raspberry Pi.
  - Collaborated with electrical engineers to write code for operating circuits using the I^2C data communication protocol.

Projects:

- *Java:* Developed a GUI application for handling book checkout/checkin requests for multiple libraries that was backed by a MySQL database.
- *Java:* I worked as part of a team using GIT for version control and the Scrum framework to program a chat application with a GUI. The application allows for users to create groups, block users, and pass messages.
- *Python:* I created a fully responsive personal website using Python's Flask framework with Jinja2 templating and Bootstrap styling. I launched the application by configuring a nginx webserver with a gunicorn application server on an Amazon Lightsail instance.
- *Python*: Developed a web dashboard application using the Dash framework that uses the method of relaxation for approximating solutions to Laplace's partially differential equation.
- *Python:* Developed the Random Forest algorithm from scratch for performing classification experiments. The algorithm can diagnose breast cancer with 78% accuracy based on phenotypical characteristics.
- *C++:* Developed a Decision Tree algorithm using parallel programming techniques with OpenMP that could successfully classify mushrooms based on their degree of toxicity.

Course Education:

- Computer Science**:** Machine Learning, Artificial Intelligence, Parallel Programming, Databases.
- Physics: Quantum Mechanics, Electromagnetics, Mechanics, Thermodynamics, Modern Physics.
- Math: Vector Calculus, Linear Algebra, Ordinary and Partially Differential Equations.

Activities:

- **Taught** a group of graduate physics students on the nuances associated with using Python for data analysis**.**
- **President** of the Society of Physics Students Club – (August 2017 – August 2018)
  - Lead a team of physicists in the development of a Spark Chamber.