

# Zach Sahlin

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## RELATED COURSEWORK

- Algorithms & Abstract Data Structures
- Machine Learning & Intelligent Systems
- Operating Systems
- Database Management Systems
- Data Science Algorithms (current)
- Programming Languages & Compilers (current)

## TECHNICAL SKILLS

- Proficient: C++, Java, Python
- Previous Experience: SQL, MATLAB, HTML, PHP
- Tools: Git, Linux, Docker, Jupyter
- Libraries: pandas, NumPy, scikit-learn, Matplotlib

## EDUCATION

**Gonzaga University** | Spokane, WA

Aug 2019 – Expected May 2023

*BS in Computer Science, Minor in Applied Mathematics*

- GPA: 3.86
- President's List: Fall 2019, Spring 2020, Spring 2021
- Dean's List: Fall 2020, Fall 2021

## PROJECTS

**Fantasy Football Drafter** | Python, Sphinx

*Ongoing*

- Models a fantasy football draft to use for testing.
- Tests and compares different drafting algorithms against each other.
- Uses Sphinx to create documentation.

**Spotify Predictor** | Python, pandas, scikit-learn, Matplotlib

*Fall 2020*

- Uses a decision tree and kNN to predict whether I will skip a song with an 81% accuracy.
- Connects to the Spotify API to gather additional data on each song.
- Uses Matplotlib to create plots to analyze the dataset.

**Nim Solver** | Python

*Fall 2021*

- Models and plays the game of Nim using the optimal strategy for both 2 and 3 player games.
- Builds a graph of all possible states, calculates each state's probability of winning, and picks the best move.

**Ski Resort Database** | SQL, HTML, PHP

*Fall 2021*

- Connects webpages to a MySQL database to display information on ski resorts.

**Yahtzee** | Java, Swing, JUnit

*Spring 2021*

- Models Yahtzee with a resizable GUI and customizable settings and utilizes JUnit to implement unit testing.

**Bike Trail Classifier** | Python, pandas, scikit-learn

*Fall 2021*

- Classifies bike trails into difficulties using a SVM with a 66% accuracy.

**Linux Kernel Module** | C

*Fall 2021*

- Modifies the Linux kernel with a simple module that can be loaded and unloaded.

## WORK EXPERIENCE

**iD Tech** | Online Private Instructor

*June 2021 – Present*

- Tutored in 8 different computer science topics, including C++, Java, and Python.
- Completed over 100 private lessons.
- Built relationships with long-term clients, and developed further skills in communication and coding.
- Collaborated with other instructors to improve teaching methods.

**University Presbyterian Church** | Kitchen and Event Assistant

*August 2018 – August 2019*

- Worked in a team to prepare food for congregants and homeless, numbering up to 700 people.
- Led groups of volunteers to serve food for the international community.