

Makenna Worley

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TECHNICAL SKILLS

Programming Languages:

Proficient: PHP, Java, Javascript, TypeScript, Python, C, C++

Familiar: Pascal, Rust, and Scala

Frameworks and Libraries:

 Experienced in:

Backend: Django, NestJS, Deno

Frontend: Angular, React, Fresh

Data Visualization: Plotly.js, Chart.js, Three.js

Database Management:

Experienced in MySQL and Snowflake, specializing in database design, optimization, and management for high-load environments.

Web Technologies:

Skilled in AJAX (jQuery, Fetch API) and RxJS observables for responsive web applications.

Software & Tools:

3D Modeling and & Printing: Blender 3.6, Ultimaker Cura Slicer, Bambu Studio Slicer

Website Deployment: DigitalOcean Droplets, Apache2, Docker

AWARDS & ACHIEVEMENTS

1st Place, HackUSU 2025 Datathon:

Developed a Deno/Fresh web app to display Space Dynamics Depute and Chief satellites' positioning.

Received a perfect score from one of the judges.

NCWIT College Panelist (2023, 2024, 2025):

Selected to represent Westminster University in Q&A panels on supporting women in computer science and STEM careers.

Girls State 2021:

Chosen to represent Cottonwood High School at Utah Girls State, a selective leadership program.

Utah State Math Competition Participant (2020, 2021, 2022):

Competed in the statewide AMC12-based math competition, solving advanced theoretical problems.

INDUSTRY EXPERIENCE

Data & Analytics Intern, Ken Garff

May 2024 - PRESENT

- Built and maintained Domo dashboards for real-time business analytics.
- Developed Angular & NestJS applications using RxJS for state management.
- Created and optimized databases in Snowflake, ensuring secure and efficient data retrieval.
- Managed server administration in production and development environments.

Software Developer Intern, Ranlife Home Loans

August 2021 - March 2024

- Developed PHP backend applications with complex MySQL integrations.
- Designed a real-time Apache Log tracker for monitoring and security analysis.
- Created 3D models in Blender for Raspberry Pi SMS projects.

- Managed team projects and ensured on-time deployment.

RELATED EXPERIENCE

- CS Research Assistant, Westminster University** August 2023 - PRESENT
- Built and maintained the Westminster CS Department Discord Server for student and faculty collaboration.
 - Improved department-wide student engagement & support through technical platforms.
- CS Research Assistant, Westminster University** May 2024 - October 2024
- Developed a React-based circuit diagram drawing tool for CMPT 328.
 - Designed an interactive UI for logic gate exercises in coursework and assignments.
 - Worked closely with faculty to align the tool with course objectives.
- Math Research Assistant, Westminster University** January 2024 - May 2024
- Tested and revised problem sets for "A Quantitative Reasoning for Social Justice" textbook.
 - Created guiding questions & solutions to improve educational material.
- CS/Math Tutor, Westminster University** August 2023 - May 2024
- Provided one-on-one and group tutoring for lower-division CS & Math courses.
 - Adapted explanations and teaching methods to diverse learning styles.

PROJECTS

- ChessWeb (Django, Python, SQLite, Javascript)**
- Developed an automated tournament pairing system using Type 6 Slowly Changing Dimensions (SCD) to track rating history.
 - Implemented an Elo rating calculator to ensure fair, automated game results tracking.
- 3D Visualizer (Javascript, Three.js)**
- Created a real-time 3D graphing tool for solving differential equations.
 - Used Euler's Method & Runge-Kutta approximations to dynamically generate graphs.
 - Fully client-side, eliminating the need for server-side processing.

VOLUNTEER

- Chess Instructor - Oakwood Elementary Chess Club** 2018 - PRESENT
- Teach chess strategy & tactics to elementary school students.
 - Provide one-on-one coaching tailored to individual student needs.
 - Substitute for beginner to advanced-level classes.
 - Lead & organize all volunteer instructors for the program.

EDUCATION

- Westminster University - Sugarhouse, UT** August 2022 - PRESENT
- BS: Major Computer Science, Minors Mathematics and Data Science (3.94 GPA)
 - **Honors:** Dean's List, Lateral-entry Honors College, First Scholars (first-gen)
- Cottonwood High School - Murray, UT** Graduated May 2022
- 4.0 GPA
 - **AP Courses:** AP Physics 1 & 2, AP Human Geography, AP US History, AP Physics C Mechanics, AP Physics C E&M, AP Calculus BC, AP English Language, AP English Literature, AP Biology, AP Biology, AP Statistics, AP European History AP US Government, AP Comparative Government, and AP Spanish
 - **Languages:** 5 years of Spanish, 3 years of Mandarin Chinese