

JADEN SOUTHERN

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EDUCATION

Stanford University

M.S. Earth Systems | GPA: 4.0

conferred June 2026

B.S. Earth Systems, Biosphere | GPA: 4.0

conferred with distinction June 2025

Relevant Coursework:

Advanced Concepts in Geographic Information Science; Counting Carbon for Climate Action; Data Science for Geoscience; Concepts in Environmental Communication; The Science & Practice of Valuing Nature for a Better World

SKILLS

Spatial Analysis: ArcGIS Pro, QGIS, ESRI Online, ESRI StoryMaps

Software & Programming: RStudio, Python, Jupyter, HTML, JavaScript, Git/GitHub

Research: Interdisciplinary and policy-relevant research, literature review, carbon accounting, basic lab techniques

Language: Conversant in Spanish

ENVIRONMENTAL SCIENCE WORK EXPERIENCE

Research Assistant

Jul 2025 - Sept 2025

Stanford University – Bill Lane Center for the American West

40 hrs/wk

- Synthesized housing policy documents and spatial hazard datasets across 2 California counties to qualify risk of wildfire to planned housing development
- Designed and built interactive webmaps communicating county-level wildfire risk and housing data to policymakers and the public
- Delivered slide decks, GIS layouts, and policy memos to regional decision makers informing local land-use and risk-mitigation planning

Visiting Undergraduate Research Intern

June 2024 - Aug 2024

Harvard University

40 hrs/wk

- Processed ~1,500 Level 3 TEMPO NetCDF granule files (HCHO and NO₂ products) across a 2-month observation period, validating retrievals against ground-based Pandora measurements using Jupyter Lab
- Quantified diurnal patterns in atmospheric ozone regimes through statistical analysis of ozone formation precursors capturing transitions between ozone sensitivity regimes

Undergraduate Research Intern

June 2023 - Sept 2023

Stanford University

40 hrs/wk

- Identified drivers of arsenic mobilization in groundwater and their relationship to drinking-water concentrations using RStudio graphing and statistical analysis packages (eg. ggplot2)
- Mapped spatial patterns of arsenic concentration in the San Luis Valley, CO with ArcGIS Pro, revealing statistically significant spatial relationships
- Assisted with lab sample preparation and measurement, including ICP-MS/OES for water samples and XRF analysis of soil samples

RESEARCH AND TECHNICAL PROJECTS

Valley Verde Food Service Locator Tool

Jan 2026 - June 2026

- Partnered with nonprofit Valley Verde to design and launch a free, easily updatable resource-locator tool for community members
- Designed and built site with HTML and JavaScript and deployed via GitHub Pages
- Integrated AI-assisted iteration to refine the tool to meet stakeholder needs

Incarcerated Californians and Climate Risk Story Map

Mar 2026

- Converted a static report on climate hazards facing incarcerated Californians into an interactive ESRI Online StoryMap
- Navigated ethical considerations to critically and responsibly interpret sensitive data in a human context

Carbon Emissions Monte Carlo Simulation

Dec 2025

- Partnered with a co-researcher to model and project CO2 emissions across natural rewilding scenarios for the Stanford golf course
- Built Monte Carlo simulations in RStudio to quantify uncertainty in emissions estimates, producing probabilistic projections
- Translated simulation outputs into visualizations to communicate rewilding trade-offs

OTHER WORK EXPERIENCE

Residential Assistant, Operations

Aug 2024 - June 2026

Stanford University

20 hrs/wk

- Coordinated house operations with a 6-person residential assistant team to support an autonomous 32-resident cooperative
- Executed a recurring grocery ordering schedule against a \$30,000 quarterly budget, balancing cost and resident needs
- Mediated interpersonal conflicts between residents to maintain a functional cooperative living environment

Graduate Teaching Assistant, Science of Soils

Apr 2026 - June 2026

Stanford University

10 hrs/wk

- Collaborated with a team of 6 to manage a 20 student course, grading assignments and running weekly lab sections
- Mentored a team of 3 students on a community partnership project, guiding hands-on field and lab protocols to measure soil characteristics

Graduate Teaching Assistant, Wild Writing

Apr 2026 - June 2026

Stanford University

10 hrs/wk

- Maintained course website, publishing student essays and resolving broken links to keep content accessible
- Designed a promotional poster to publicize final student presentations
- Tracked attendance and supported day-to-day class logistics to keep instruction running smoothly

Graduate Teaching Assistant, Biosphere-Atmosphere Interactions

Jan 2026 - Mar 2026

Stanford University

10 hrs/wk

- Ran class management and logistics for a 20-student course as part of 2-person team, including grading all homework assignments

Graduate Teaching Assistant, Introduction to Earth Systems**Sept 2025 - Dec 2025***Stanford University*

20 hrs/wk

- Co-designed and helped manage an interdisciplinary environmental systems course of 200 students alongside a 10-person instructional team
- Led 2 weekly discussion sections, communicating complex systems concepts to students across a range of disciplines
- Managed the course gradebook, tracking and calculating grades and late submissions for 200 students

Computer Science Section Leader**Sep 2022 - Aug 2023***Stanford University*

15 hrs/wk

- Taught weekly discussion sections on introductory computer science concepts, graded homework and exams, and held weekly office hours

Barista**Jul 2019 - Aug 2022***Starbucks*

10–40 hrs/wk

- Delivered consistent customer service in a fast paced work environment; Voted Partner of the Quarter by coworkers

AWARDS AND HONORS

Earth Systems Director's Award for Academic Achievement **2025****Earth Systems, Excellence in the Senior Capstone** **2025****Jasper Ridge Biological Preserve ('Ootchamin 'Ooyakma) Docent Certification** **2025****CONFERENCE EXPERIENCE**

Presentation – Evaluating TEMPO Satellite HCHO and NO₂ Products Against Ground-Based Pandora Instruments

American Meteorological Society (AMS) Conference

Jan 2025**Poster – Deciphering the Role of Redox Conditions on Groundwater Arsenic Contamination in the San Luis Valley, Colorado**

American Geophysical Union (AGU) Conference

Dec 2023