Data Sciences

Career Compass
Geosciences

This career compass provides options, tips, suggestions, and strategies for how a student can obtain critical skills, experiences, and competencies in order to launch their geoscience career based on their academic standing. The content herein is based on data from the U.S. Bureau of Labor Statistics, interviews with personnel in the occupation, and research on available student opportunities.

Job Summary

Data scientists develop and implement a set of techniques or analytics applications to transform raw data into meaningful information using data-oriented programming languages and visualization software. They apply data mining, data modeling, natural language processing, and machine learning to extract and analyze information from large structured and unstructured datasets. They often visualize, interpret, and report data findings.

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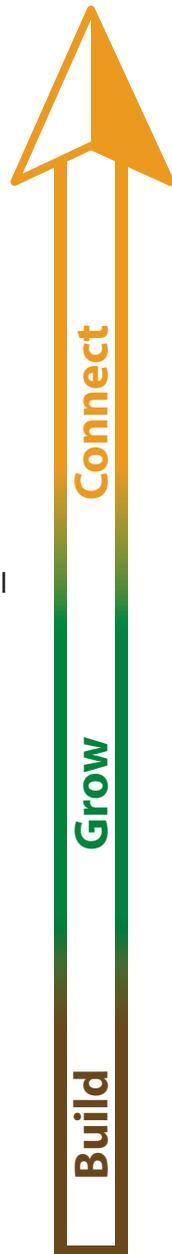
Undergraduate

- Campus clubs, student government, or professional societies
- Professional society conference
- Hone and demonstrate oral and communication skills through courses, involvement in the community, or via presentations at conferences
- Seminars in computer science or statistics departments
- Interdisciplinary conference in data science
- Independent research project outside of your research/field domain by using a public dataset or seek out a nonprofit or other organization that could use help
- For-profit industry
- Government sector (may require U.S. citizenship or ability to obtain a security clearance)
- Degree in any science or engineering field
- Coursework in statistics, math, research methods, programming languages, and computer science
- Research experience
- Spreadsheet tools, data collection, data visualization tools, or computer programing languages

Graduate/Master's

- Present research at conference
- Publish research
- Seminars in computer science or statistics departments
- Events, activities, and technical sessions at conferences
- Assist with undergraduate labs or classes, community outreach
- Departmental committee, campus club, professional society
- Interdisciplinary conference in data science
- Independent research project outside of your research/field domain by using a public dataset or seek out a nonprofit or other organization that could use help
- For-profit industry
- Government sector (may require U.S. citizenship or ability to obtain a security clearance)
- Lab, applied research, or instrumentation experience leading to program management
- Coursework in science discipline, computer science, applied math, and statistics. Emphasis on data science analytics, computational, and programming skills.
- Master's thesis topic in field involving data collection, curation, and governance

Also applicable at Ph.D. level

Ph.D./Post-doc

- Present research at conference
- Publish research
- Seminars in computer science or statistics departments
- Departmental committee, campus club, professional society
- Conferences, campus career fairs and presentations, communities in and out of your science
- Host session at conference, co-teach undergraduate course or lab, community outreach
- Interdisciplinary conference in data science
- Mentor undergraduate student research project
- Teaching assistant for undergraduate or graduate course related to data science
- Extensive applied research, computer programming, lab, or instrumentation experience leading to program management experience
- Advanced coursework in field, applied math, statistics, and courses with major computing/computer science components
- Dissertation topic(s) related data collection, curation, and governance

Symbol Key

- Attend
- Communicate
- Network
- Participate
- Leadership
- Internship
- Scholarship
- Fellowship
- Academics