



GRADUATE PROGRAMS IN COMPUTATIONAL AND DATA SCIENCES



GRADUATE PROGRAMS

MS in Computational and
Data Sciences

Ph.D. in Computational and
Data Sciences



CHAPMAN
UNIVERSITY

Schmid College of
Science and Technology

Chapman.edu/CADS

COMPUTATIONAL AND DATA SCIENCES

Computational Science is the art of creating, developing and validating models in order to gain a profound understanding of real-life complex problems. Data Science is the art of generating insight, knowledge and predictions by applying modern methods to large datasets.



Doctoral Program

In Chapman University's Ph.D. in Computational and Data Sciences program, you will collaborate on innovative research as you work closely with nationally and internationally renowned faculty mentors who will help prepare you to thrive in a variety of professional settings, from academia to private industry and scientific research labs to government agencies. You will learn to design and implement mathematical models and refine quantitative analysis techniques to solve complex scientific problems. You will develop your dissertation while focusing on the advancement of theory and applications of statistical, machine learning and AI in diverse data science-related fields. These subjects include medicine and epidemiology, climate and Earth hazards, big data and high-performance computing, drug design, genetics, natural language processing, bioinformatics and biotechnology, economics and sports analytics.

Employment and Future Opportunities

In our tech-driven world, employers are increasingly recognizing the value of data science professionals. According to U.S. News and World Report, the Bureau of Labor Statistics projects 35.8% employment growth for data scientists between 2021 and 2031. In this period, an estimated 40,500 jobs would be created.

Graduates from the program have gone on to work in a variety of industries, such as:

- Artificial Intelligence and Machine Learning
- Higher Education
- Healthcare
- Entertainment
- Government Agencies
- Large Tech Companies such as Amazon, Microsoft, Google, Yahoo



PREPARE TO THRIVE IN LEADERSHIP ROLES

Louis Ehwerhemuepha (Ph.D. '15)

Ehwerhemuepha was one of the first graduates of Chapman University's Ph.D. program in Computational and Data Sciences. He currently leads the research data science program in his role as Director of the Research Computational Science team at CHOC. His experience encompasses biostatistical, classical machine learning and artificial intelligence applications in pediatrics.



**Schmid College of
Science and Technology**

For more information, or to apply,
visit Chapman.edu/CADS or call 1-888-CU-APPLY.
One University Drive ■ Orange, California 92866

CUTTING-EDGE LABS AND FACILITIES

In the 140,000-square-foot Keck Center for Science and Engineering, you'll have access to collaborative labs and workspaces so you can focus on research and learning that matters to you.

MS DEGREE REQUIREMENTS

Core Courses (13 credits) in Computing for Scientists, Math Modeling, Data Mining, Multivariate Data Analysis, Computational Science Seminars

Elective Courses (12 credits) in the areas of Analytics and Applied Mathematics, Bioinformatics and Computational Biology, Computational Economics or Earth Systems Science

Additional Elective/Thesis Courses (6 credits) Choose one of the following options after successfully completing the core requirements in the program:

Option 1: Graduate level electives
(6 credits)

Option 2: 698 Thesis (6 credits)

Total Credits: 31

Ph.D. DEGREE REQUIREMENTS

Core Courses (13 credits) in Computing for Scientists, Math Modeling, Data Mining, Multivariate Data Analysis, Computational Science Seminars

Elective and Research Courses (45 credits) Selected from among the graduate courses in computer science, computational sciences, mathematics, physics and economic sciences. A minimum of 15 credits must be at the 700 level.

Dissertation Courses (12 credits)
CS 798 Dissertation Research

Total Credits: 70