

Multidisciplinary Data Science (MDaS)

**To Better Prepare STEM Students with
Emerging Data Science Skills**

A National Science Foundation S-STEM
Scholarship Program

Meet the Project Team

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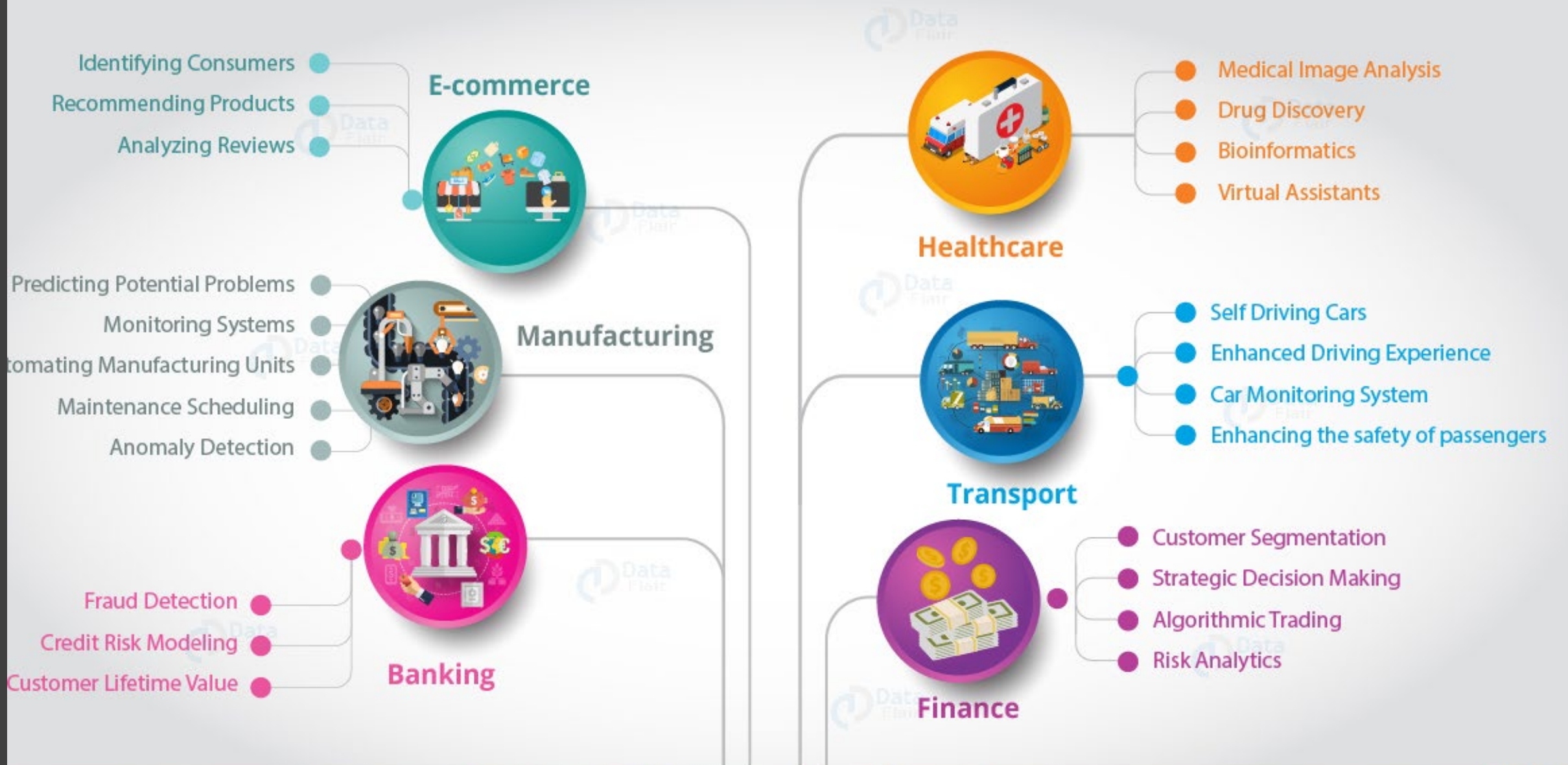
What is data science?

- Data is everywhere! Data science starts with data!
- Data science combines the fields of computer science, mathematics, statistics, and information systems with a focus on the generation, organization, modeling, and use of data to make scientific and business decisions.

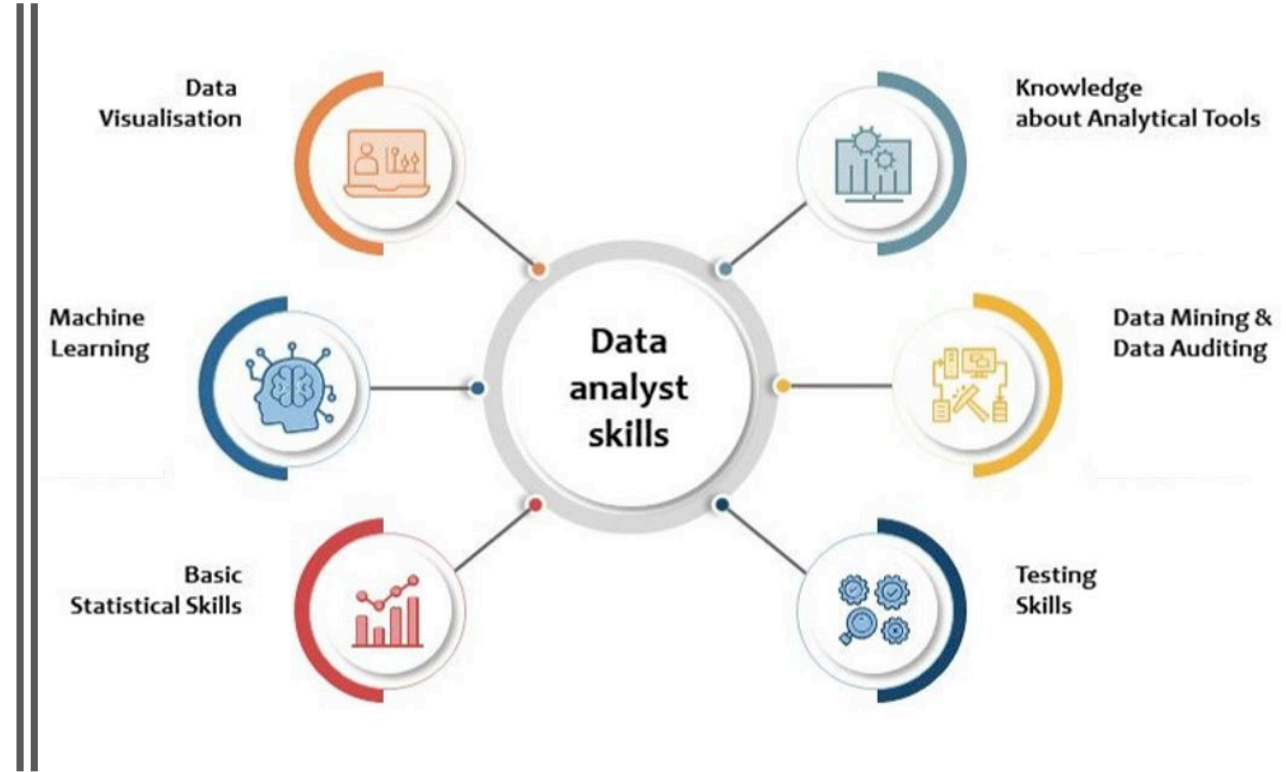


What do data scientists do?

- A data scientist is a person that has expert knowledge for turning observations into decisions.
- A data scientist devotes time to collecting data and answering questions of interest based on analyzing data.
 - Data scientists think about the physical processes and man-made systems that generate data and how to extract and organize the data in order to get answers.
 - Data scientists make the connection between observation and decision making by applying analytics to the data.
 - Data scientists observe and describe what happened, predict what might happen, and prescribe solutions for what to do.



Data Science Applications



Essential Skills for Data Analysts

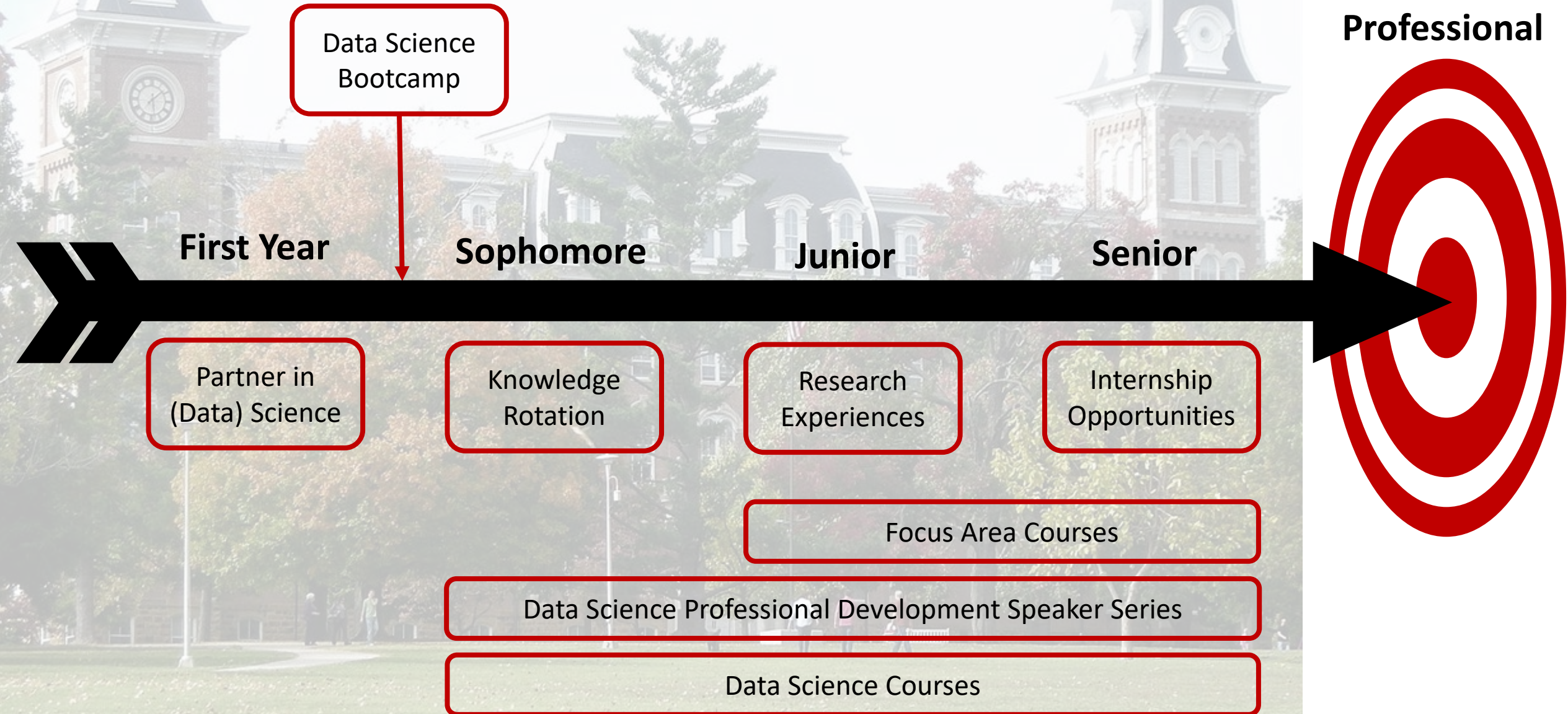
Why is MDaS Needed?

- To meet the growing workforce needs of qualified STEM graduates with data science skills in Arkansas and the nation.
- This will be accomplished by:
 - Establishing recruitment and retention programs for new data science majors and other related STEM disciplines
 - Faculty and business leaders mentoring students interested in data science
 - Engaging data science and other related STEM disciplines in career development initiatives leading to skills sought after within industry
 - Improving the graduation rate of data science students through need-based and academically accountable scholarships



What are the components of MDaS?

**Data
Science
Professional**



What is the Data Science Bootcamp?

Workshops on data science topics in Fall and Spring semesters

- Fall
 - Introduction to Data Science (4 hours, Friday before classes)
 - The Role of Databases, Data Extraction and Transformation within Data Science
 - Python and R within Data Science
- Spring
 - Regression Analysis within Data Science
 - Classification Methods within Data Science
 - Cluster Analysis within Data Science

2 hours, 2 evenings, each

General topics:

- Academic foundation of data science
- Research activities and career opportunities



Who is eligible to apply?

- Students must be interested in data science as a career path or in the use of data science techniques within their career.
- Students must meet the following criteria to receive an MDaS renewable scholarship:
 - 1) must be a US citizen, permanent resident, national or refugee eligible to receive NSF funds;
 - 2) must be making satisfactory progress toward degree completion in a STEM-related field, and be in their first or second year; and
 - 3) must have a demonstrated financial need, as determined through FAFSA submission
- Final selection will be based on the quality of the application package, cumulative GPA (at least 2.75) and an interview.

How do students apply?

- Submit your application via the application link available at mdas.uark.edu.
- Applications can be submitted starting January 1 thru February 22, 2023. You will need the following:
 - One letter of recommendation (optional). Preferably from a current UA faculty member.
 - A current academic résumé
 - An essay (approximately one page; there are no style requirements). Your essay should be about:
 - 1) Why you want to participate in the MDaS program, 2) your short and long-range goals for your career, and 3) what data science means to you and how it will help you to advance your career goals.

What is expected from the students?

- Successfully complete 30 credit hours during the year with a minimum of 6 credit hour of data science related course hours per year;
- Meet the GPA renewal requirements (cumulative GPA ≥ 3.00);
 - If CGPA < 3.0 , student placed on probation, stays on probation provided semester GPA > 3.0
- Apply for all available scholarships and aid;
- Submit the FAFSA form yearly; and
- Be an active participant in a minimum number of MDaS activities. MDaS students must remain enrolled full-time and make substantial progress towards their BS STEM degree.
- Complete required MDaS forms and paperwork in a timely manner
- Students are required to meet the highest standards of academic integrity and student conduct. Students found in violation of the academic integrity and/or behavior standards stated within the Code of Student Conduct can be removed from MDaS at the sole discretion of the project team.



For more information, contact

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