Dear Capstone Partners,

The Master in Interdisciplinary Data Science (MIDS) program at Duke University offers a rigorous Capstone experience that connects student teams with external partners to tackle real-world, data-driven challenges. This welcome letter and **partner overview** outline the program structure, timeline, and expectations for participating partners.

Overview of the Program

The MIDS program culminates with the Capstone project, a two-semester, full academic year intensive experience in which teams of students partner with a faculty advisor and/or an organization to solve a specific problem utilizing data science techniques. The Capstone is designed to give students the opportunity to utilize the domain-specific tools developed throughout the program in a real-world environment in which they are exposed to the challenges inherent to the modern data environment. The Capstone project dates for the 2025-2026 academic year are August 24, 2026, to Aril. 23, 2027.

Throughout the course of this project, please keep in mind that, in addition to being able to use data science methods to solve your organizational problem, this project is meant to serve as an educational experience for the students and provide opportunities to:

- Advance their interpersonal communication skills
- Learn how to access and explore organizational needs
- Practice professional interactions
- Identify and overcome obstacles in big data projects
- Provide, receive, and implement critical feedback
- Present the results and recommendations from their research

Capstone Program Leadership & Support

- **Capstone Director – Zhongyuan Yu**
  As Associate Professor of the Practice, Dr. Yu oversees the Capstone program with a focus on fostering student collaboration, guiding project deliverables, and providing ongoing support throughout the project lifecycle.
- **Staff Coordinator – Shanon Jacobs**
  As Senior Program Coordinator for MIDS, Shanon supports the director and ensures smooth communication between students and project partners.
- **Faculty Mentors**
  Each student team is assigned a faculty mentor who provides technical expertise and support team progress. Mentors typically participate in kickoff and key milestone meetings, while encouraging students to take ownership of the

partnership. Project partners are welcome to contact mentors directly with any questions or concerns.

Student Teams

Capstone teams are composed of 3–5 second-year master's students from the Master of Interdisciplinary Data Science (MIDS) and Master's in Statistical Science (MSS) programs. Students bring diverse academic and professional backgrounds, and are highly motivated to address real-world, data-driven challenges.

- **MIDS students** are trained in statistical modeling, natural language processing, cloud computing, and machine learning.
- **MSS students** bring expertise in statistical inference, Bayesian methods, and multilevel modeling.

Capstone Timeline

- **Feb. 16 – May. 30:** Partner proposals due (see project proposal requirement).
- **March – July:** Legal agreements and MOUs are finalized.
- **July:** Teams are formed based on student interest.
- **August:** Student teams are introduced to mentors and partners.
- **Aug 24 – Dec 11:** Project work. Students meet regularly with partners and mentors; directors lead weekly course sessions. Progress update and milestone reports are submitted by the end of November.
- **Jan 6 – Late March:** Project work continues. Weekly meetings resume, with a focus on delivering final outcomes.
- **Late March/Early April:** Capstone Symposium – student teams present their work; partners are encouraged to attend.
- **April:** Final presentations and project reports are completed.

Partner Expectations

- Meet regularly with your student team (weekly/bi-weekly).
- Provide feedback on milestones and final deliverables.
    - Participate and provide feedback in a mid-year review between Nov. 23 and December 11, 2026.
    - Participate and provide feedback during the Capstone Symposium or year review between April 2 and April 23, 2027.
- Complete end-of-semester surveys to evaluate team performance and share your experience with the program.
- Ensure your data (if any) is prepared for the students and that you have identified any training required for them to access it. Keep us informed of any

issues you anticipate or encounter as students access the data and training, so we may be of assistance.
- Reach out to faculty mentors with any questions or concerns.
- Optional: Attend the Capstone Symposium, either in person or via livestream.

Recommended Meeting Structure

- Hold weekly meetings (30–60 minutes recommended).
- Students will provide an agenda in advance.
- Meetings focus on progress updates, challenges, and questions.
- Students will follow up with a summary and clear action items.

We also ask that you provide feedback directly to the Capstone Director about the students' progress and professional skills several times throughout the project, which will directly impact the guidance and course-correction we give and their final grade in the Capstone. Possible topics for feedback will include the student's professional personality, portrayed teamwork with his/her project partner(s) and with technical team members of your group, and their overall communicability regarding the project with technical and non-technical stakeholders. Similarly, we will solicit feedback from you after the final presentation to determine how the overall year went and how we may improve the process for subsequent project years.

The students will be responsible for the full lifecycle of the project so that they gain exposure to the obstacles and struggles realized by professional data scientists. We have done our best to align the domain expertise and data science technical skill sets of our students to your project, but please know that our cohort is interdisciplinary and culturally diverse and has varying levels of experience managing professional relationships.

If you notice any concerns with the students' progress, changes in project scope, or shifts in your availability, please contact us right away so we can determine the best way forward. Since problem-solving is a core skill for data scientists, we will support and guide the students through any challenges that arise.

Student Preparation & Skills

MIDS Students:

- Completed a bootcamp in statistics, linear algebra, and programming.
- Finished seven core courses in areas such as statistical modeling, machine learning, natural language processing, databases, data ethics, data engineering, and data visualization.
- Gained hands-on experience through a summer internship.

- Regularly attend data science seminars and career development workshops.

MSS Students:

- Completed bootcamps in mathematics, statistics, and Python.
- Taken six core courses covering predictive modeling, R, Python, statistical inference, Bayesian analysis, and professional development.
- Completed a summer internship or research project.
- Participate in industry-focused and academic seminars.

We look forward to building a partnership with you throughout the academic year, and please do not hesitate to reach out to us with any questions/comments/concerns you have regarding this Capstone Project.

Sincerely,

Zhongyuan (Annie) Yu, Ph.D.
MIDS Capstone Director

Frequently Asked Questions

- **Q: Are meetings expected to be in person or virtual?**
  A: This is up to your preference. However, please note that not all students have access to transportation, so meetings held off-campus may be difficult to attend regularly. Virtual meetings are common and often preferred for accessibility.
- **Q: What if a technical issue arises that is beyond the expertise of both the student team and the partner?**
  A: Faculty mentors are available to assist. They can either provide direct support or connect the team with appropriate technical resources.
- **Q: Who should I contact if I have concerns about the student team?**
  A: We encourage open and respectful communication with the student team first, as this may be their first time working with an external partner. If you have concerns about progress, communication, or team coordination, share your feedback with the students directly. If the issue persists or involves team dynamics, contact the faculty mentor. The mentor will help address the concern and, if needed, escalate it to the program director.
- **Q: Should I attend the Capstone Symposium?**
  A: Absolutely! we'd love for you to join! The Capstone Symposium is a highlight of the program, where student teams present their work. It will be held in person in late March or early April. The director or staff will share details early in the spring semester.
- **Q: Which platform should I use to communicate with the student team (e.g., Slack, Teams, email)?**
  A: You're welcome to use the platform that works best for you. Students regularly use email and Slack and also have access to Microsoft Teams.
- **Q: The attached checklist mentions tools like GitHub, Jira, and others. Are we required to use them?**
  A: No, you're not required to use any specific tools. The listed platforms are simply recommendations to help support effective project management. You're welcome to use whichever tools you're most comfortable with. Nevertheless, we recommend having the following:
    - A shared code repository
    - A system for tracking project status and task assignments
    - Clear, well-maintained and shared documentation

  These elements help ensure transparency, collaboration, and continuity throughout the project.

Still have questions?
Please contact us at **dukemids_capstone@duke.edu**