M.S. in Predictive Analytics

Learning Outcomes

All students will be able to:

- Write advanced SQL queries and stored procedures to preprocess data (using integration, cleaning and transformation) for visualization, modeling and interpretation.
- Identify appropriate database technologies to meet a set of requirements and to recommend possible solutions.
- Create predictive models using statistical, data mining and machine learning techniques, and evaluate and interpret such models to support fact-based decision making.
- Work both independently and in a team to solve large data analysis projects.
- Clearly communicate and present complex analytics results to business clients, using practical and simple business terms that can be understood by a general non-technical audience.
- Identify and evaluate appropriate data analytics techniques to be used depending on the specific information needs of the project.
- Use data visualization tools to communicate data mining results in an effective way.

Each student will choose one area of expertise and be assessed as indicated below.

1. **Marketing concentration**: Students will be able to describe the business processes involved in marketing and customer relationship management and to explain the role of analytical and predictive tools in these processes.
2. **Computational Method concentration**: Students will be able to implement data mining and machine learning techniques using a high-level programming.
3. **Hospitality concentration**: Students will understand revenue management strategies and principles and will be able to develop hospitality analytics to support revenue optimization and decision making within the hospitality industry.
4. **Health Care concentration**: Students will understand principles of health care management, including private and government based models, and will be able to use analytics to inform health care strategies, policies, and clinical decisions.

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