Intellectual POINT

Data Science

Prerequisites

It is not required that students have specific expertise with regards to Data Science, however, a four year degree from an accredited university is preferred.

Program Goals

The extraordinary spread of computers and online data is forever changing the way decisions are made in many fields, from medicine to marketing to scientific research. Dramatic growth in the scale and complexity of data that can be collected and analyzed is affecting all aspects of work and society including health care, business practices, public safety, scientific discoveries and public policy.

Understanding effective and ethical ways of using vast amounts of data is a significant challenge to science and to society as a whole. Developing scalable techniques for data analysis and decision making requires interdisciplinary research in many areas, including machine learning, algorithms, statistics, operations research, databases, complexity analysis, visualization, analysis, visualization, and privacy and security. Through a unique combination of interdisciplinary coursework and cutting-edge research, the program will enable them to apply techniques and tools of data science to applications drawing on appropriate and relevant concepts and models from the engineering, natural or social sciences.

Professional Objectives

The Data Science program is designed to train students to become tomorrow's leaders in this rapidly growing area. During the course of this program, the student will be able to:

- Define key concepts and models relevant to data science, including data integration, data intensive distributed computing and data visualization.
- Design and implement the core algorithms underlying an end-to-end data science workflow
- Evaluate the data collection by using mining, analysis, and presentation of information derived from large datasets.
- Create competitive advantage from both structured and unstructured data.
- Predict outcomes with supervised machine learning techniques.
- Unearth patterns in customer behavior with unsupervised techniques.
- Work with Splunk and Tableau to analyze and portray machine data in easy to use dashboards.

Core Courses

- DEV 1003 Big Data and Splunk Analytics | 40 hours
- DEV 1004 Tableau Desktop Associate | 32 hours
- ISA 1001 Certified Secure Computer User | 16 hours
- ISA 1002 Introduction to Cyber Security | 48 hours
- ISA 1003 Cyber Security Analyst | 40 hours
- NET 1006 Introduction to Linux | 40 hours
- PMP 1001 ITIL Foundation | 24 hours
- **Total Program Clock Hours | 240**

Learning Outcomes

Upon completion of this program, the graduate will be able to:

- Perform big data administration tasks for IT lifecycle phases like staging and production.
- Monitor agentless, network and scripted inputs to fine tune them.
- Parse data based on requirements after manipulating the collected raw data.
- Apply best practices in data science, including facility with modern tools like Splunk and Tableau
- Construct data analysis and report findings by building interactive dashboards.
- Work with R and RHadoop to analyze structured, unstructured, and big data.
- Develop a reliable security architecture to keep the data safe.