

**AN INTERDISCIPLINARY APPROACH TO SPORTS ANALYTICS IN A UNIVERSITY  
SETTING**

**WHAT ARE THE RISKS ASSOCIATED WITH PERFORMANCE ANALYSIS FOR  
INDIVIDUALS?**

An Undergraduate Thesis Portfolio  
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In Partial Fulfillment of the Requirements for the Degree  
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By

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## **SOCIOTECHNICAL SYNTHESIS**

Performance Analytics is a tool to uncover insights and reveal hidden values that will help to define new strategies to achieve key objectives. The technical research aims to design a Center for Performance Analytics at the University of Virginia, in order to foster both academic and athletic research exploration. This center is envisaged as a collaborative initiative, where students and faculty alike can learn, teach and utilize the data procured by the center and the various affiliated athletic teams. The STS research aims to explore and provide a solution to the ongoing issue of data security and privacy. The data the center is to collect, will often be sourced from volunteers in the form of personal data, as well as from student-athletes' performance. Therefore, strict measures are needed to maintain individual privacy.

The Sports Analytics industry, a subsection of Performance Analytics, has seen very high growth over the last decade with professional sports teams exploring the tool to gain competitive advantages. Collegiate athletics programs have also recently initiated analytics programs, and thus the technical research provides the University of Virginia with a response to the phenomenon. The method in which the technical team conducted its research was first through research into the history of Sports Analytics. Specifically, the state of Sports Analytics and its use by colleges and universities in the United States. Secondly the team explored the issues within the field such as the secretive and competitive attitude of professional teams, as well as the security and use of athlete's biometric data.

The research resulted in a comprehensive process of designing the center's goals: A) To build an institution synonymous with service. B) To cultivate a vibrant community. C) To enable discoveries that can enrich lives. D) To strengthen foundations, and finally E) To ensure ethical data collection and transparency. The research concluded with a proposal for an interdisciplinary

sports analytics center that aims to achieve all the above goals. All the while, the center incorporates any and all academic departments that wish to explore this tool.

The STS report aims to explore the question: What are the risks associated with performance analytics for individuals? Data Security and Protection mechanisms in the United States are severely lacking in their ability to mitigate risks, and new legislation needs to be implemented as soon as possible. The STS research explores various sources such as newspaper articles from expert journalists, as well as scientific journal entries and other studies from qualified researchers. These sources cover incidents of mass data breaches, the discrimination of private individuals based on their data, and the technologies that could mitigate the risks. The legislative attempts to introduce federal regulation was also explored.

Social Media and consumer technology firms are at the center of the issues with data privacy and security. In 2015 AT&T, the largest consumer telecommunications firm in the US, paid \$25 Million in fines for illegally disclosing the data including social security numbers of 280,000 customers. Also in 2015, Morgan Stanley accidentally released the account data of 10% of its wealth management clients, or 300,000 people. By volunteering their sensitive data to these firms, individuals are putting themselves at considerable risks of having their financial and personal data released to the public. One way to eliminate this risk is to employ new technologies: Data Authentication, Encryption, Masking and Access Control.

Performance Analytics can offer many benefits to any user or entity that employs the tool, however at the risk of privacy being breached. The data collected needs to be secured in such a way, that volunteers will not be subject to disadvantages if it were to be released. This frame of security needs to be mandated from the federal regulatory level in order to have a successful impact.



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