

## **Leveraging Artificial Intelligence for Automated Qualifier Determination in NCAA Division II Diving: A Technical Case Study**

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### **Abstract**

The integration of artificial intelligence (AI) in sporting event administration has expanded in recent years, offering increased accuracy, efficiency, and standardization in decision-making processes. This case study investigates the use of ChatGPT, a large language model (LLM), to automate and validate the selection of championship qualifiers in the NCAA Division II Diving Championships, an administrative process known for its complexity and susceptibility to human error. Through structured prompt engineering, iterative testing, and verification using official qualification procedures, the study demonstrates the feasibility of employing AI to support operational reliability. The findings highlight opportunities and limitations for AI adoption in sport management settings and provide recommendations for future implementation.

**Keywords:** artificial intelligence; sport management; ChatGPT; NCAA diving; officiating technology; automation; decision support systems

### ***Field Notes: Practice-Driven Issues in Sport by Dr. Jeff Noble***

Dr. Jeff Noble, a faculty member in the Department of Sport and Leadership Studies at Wichita State University, specializes in sport management, leadership development, and applied sport research. Since 2008, he has served as an official and event management staff member for the NCAA Division II Swimming and Diving Championships, where he has significantly contributed to advancing the quality of events. Dr. Noble has been dedicated to developing creative approaches that bridge academic inquiry with real-world sport industry challenges. His commitment to evidence-based practice and support for emerging scholarship have made him a valuable contributor to the field and the mission of *the Journal of Contemporary Issues in Sport*.

## Introduction

Artificial intelligence has become an increasingly prominent tool in sport event operations, with applications ranging from video-based officiating systems to predictive analytics and athlete performance monitoring (Baladaniya & Kumar, 2025; Dong, 2025; Hao et al., 2023). While much of the existing research focuses on competition-based technologies, such as VAR in soccer or automated judging in gymnastics, administrative processes in collegiate athletics have received comparatively little attention. This case study addresses this gap by examining the use of ChatGPT to automate qualifier determination for the NCAA Division II Swimming and Diving Championships.

This qualification process is uniquely complex within collegiate athletics. NCAA Division II requires divers to enter a pre-championship qualification meet, adhere to strict diving standard criteria, and advance based on a multi-step algorithm that weighs performance on both the 1-meter and 3-meter boards. Manual processing of results is challenging due to rule intricacies, dual-qualification handling, and potential tie scenarios. The incorporation of AI into this workflow presents a practical opportunity to enhance reliability and operational efficiency.

### ***Artificial Intelligence in Sport Administration***

AI applications in sport continue to expand across officiating, performance evaluation, athlete monitoring, and competition management. Computer vision systems, such as automated pose detection and machine learning-based scoring analysis, have demonstrated accuracy comparable to or exceeding human judgement in sports like diving, gymnastics, and figure skating (Lewis, 2024; Zhou et al., 2025). LLMs such as ChatGPT extend these capabilities by parsing rule structures, interpreting results, explaining decisions, and generating documentation (OpenAI, 2024).

In administrative sport contexts, AI offers benefits (Chen, 2024; Hammes et al., 2022; Lewis, 2024; Zhang et al., 2025; Zhou et al., 2025) that include:

- Standardized rule interpretation to reduce variability
- Automated data processing, enabling faster event turnaround times
- Decision auditing, allowing officials to track logic and identify discrepancies.
- Enhanced transparency, improving stakeholder trust.

The NCAA Division II diving qualification process provides a compelling practical example because it effectively combines structured rules with extensive tabular datasets, creating an ideal environment for automation using large language models (LLM).

### ***NCAA Division II Diving Qualification Procedures***

The NCAA Division II Pre-Championship Manual (NCAA, 2024) outlines a multi-phase process for determining championship qualifiers intended to ensure fairness and transparency:

1. **Eligibility Requirements:** Divers must achieve minimum qualifying scores and degrees of difficulty in bona fide collegiate competition.
2. **Qualification Meet:** Conducted at the championship site, where divers perform six optional dives on each entered board.
3. **Initial Selection:** The top nine men and top eleven women from each board automatically advance.
4. **Dual-Qualification Adjustment:** Additional divers are added alternately from 1-meter and 3-meter results until the caps of 18 men and 22 women are met.
5. **Tie Resolution:** All divers tied for the final qualifying position advance.
6. **Alternates List:** Developed using the same procedure.

Given the structured yet intricate nature of this process, it provides a strong test case for evaluating AI's ability to execute rule-based event operations.

## Methodology

### ***Data Preparation and Input Structure***

ChatGPT was provided with:

1. NCAA Division II diving qualification rules (NCAA, 2024),
2. Complete 1-meter and 3-meter results from the prequalification meet, and
3. Instructions to identify qualifiers, resolve dual-qualification sequencing, and generate alternates.

Prompts emphasized clarity, rule hierarchy, and structured output formatting, factors shown to significantly impact LLM accuracy (Zamfirescu-Pereira et al., 2023).

### ***Test Protocol***

The evaluation consisted of three phases:

1. Validation using NCAA sample data from a memorandum distributed to Division II diving coaches (NCAA, 2025).
2. Application to 2024 men's prequalification data.
3. Application to 2024 women's prequalification data.

The AI-generated outputs were compared against manually verified results to assess performance.

## Results

### ***Phase 1: Rule Adherence Verification***

ChatGPT successfully reproduced the official example of qualifier determination included in the NCAA memorandum, accurately identifying top finishers and resolving dual qualifications (2025 NCAA Division II Diving Prequalifying Meet Results, unpublished data). This confirmed its capacity to interpret rules and apply sequential decision logic.

### ***Phase 2: Men's Prequalification Data***

Initial outputs revealed minor discrepancies, including one omitted diver. These errors were attributed to:

- Misinterpretation of tied placements,
- Ambiguous alternation logic in early prompts, and
- Overly generalized rule phrasing provided to the AI.

After prompt refinement emphasizing tie-handling, ordered logic chains, and explicit alternation rules, ChatGPT successfully reproduced the official list of qualifiers and alternates.

### **Phase 3: Women's Prequalification Data**

ChatGPT correctly identified all qualifiers on the first attempt with no discrepancies. The women's dataset contained fewer ties and more evenly distributed rankings, reducing the complexity of alternation processing.

### **Advantages and Limitations of AI Integration**

#### **Advantages**

- Increased procedural accuracy: Once properly instructed, the AI executed rules without deviation.
- Reduced administrative load: AI performed calculations and rule resolutions within seconds.
- High transparency: ChatGPT generated step-by-step explanations supporting auditability.
- Scalability: Capable of expanding to multi-event or multi-year datasets.

#### **Limitations**

- Prompt sensitivity: Small ambiguities in instructions can generate logical errors.
- Lack of native numerical verification: AI must be carefully guided to avoid score misinterpretation.
- Human oversight required: Officials must verify outputs before application.

These findings align with broader research on LLM decision-support systems, which emphasize the need for structured prompts and human-in-the-loop models to ensure reliable outcomes (Bommasani et al., 2022; Shneiderman, 2022).

## **Discussion**

The successful application of ChatGPT in this case demonstrates the feasibility of integrating LLM-based tools into NCAA event operations. Unlike video-analysis AI systems, which rely on machine learning models trained on dive footage, ChatGPT excels at rule interpretation, logic sequencing, and complex administrative decision support. When paired with computer vision scoring systems (Dong, 2025; Zhou et al., 2025), a comprehensive end-to-end AI-supported officiating ecosystem becomes possible.

Moreover, this case illustrates the value of AI as an intermediary between raw data and human decision-makers (Hao et al., 2023). By generating explanations, identifying inconsistencies, and applying rules systematically, ChatGPT enhances transparency and reduces the likelihood of human error, critical elements in maintaining competitive fairness.

### **Conclusion**

ChatGPT demonstrated strong potential as an assistive decision-support tool in NCAA Division II diving qualifier determination. While not a replacement for human oversight, AI can improve accuracy, consistency, and efficiency in sport administration. As collegiate athletic organizations seek modernized workflows, integrating AI-driven tools like ChatGPT represents a pragmatic pathway toward enhanced operational reliability.

Future applications may include:

- Full integration with diving meet management software,
- Automated database-driven qualifier generation,
- Use in other judged sports such as gymnastics or figure skating, and
- Combining LLM-based rule logic with computer vision scoring systems.

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