Field Session Proposal – Summer 2026

Colorado School of Mines Football

1250 12th Street, Korrell Center, Room 213

Project Title: AI Video Football Film Breakdown

Contact: Anthony Makransky - amakransky@mines.edu

Hello prospective field session team,

I am working with the Colorado School of Mines Football program on a project exploring how AI can improve the process of film analysis for both self-scouting and opponent scouting. As a Mines master's degree holder, I have seen how AI can improve workflows, and as the current Defensive Pass Game Coordinator at Mines I want to bring these enhancements into our day-to-day operations.

Currently, film breakdown requires a significant number of hours manually inputting data into spreadsheets using a service called Hudl, which can export directly into Excel. This process is time-consuming, labor-intensive, and prone to human error. It ultimately takes our staff away from strategic preparation, with only five days to get ready for the next game. We aim to gain a competitive edge by automating this workflow, allowing us to refocus limited resources on strategy.

This project builds on the work of a previous field session group. Over the past year, we established a baseline for integrating computer vision and identified areas where it may not be necessary. With a renewed focus, we are excited to take this project to the next level.

About the Project

Thanks to the success of our most recent field session, our objectives have become significantly more focused. Previously, our goal was to apply computer vision broadly to label all aspects of scouting. Now, we are concentrating specifically on using computer vision to track and analyze player location. As a result, this project will place a much stronger emphasis on data science, particularly on the development and refinement of the core AI model.

The initial focus will be on labeling static images (e.g., formations and player alignments). From there, we hope the project will evolve to track and analyze moving players and objects, providing a deeper understanding of gameplay.

Using Hudl film, your preferred data interpretation tools, and spreadsheets, the ultimate aim is to develop a process that interprets footage and translates it into meaningful

representations of on-field actions. We will provide both short and long-term goals, but how you accomplish them is up to you. That said, all models used in this project must be available for commercial use.

No prior football knowledge is necessary—guidance and support will be provided throughout the semester.

Desired Skillsets

• Curiosity, creativity, and strong problem-solving ability

• A foundational understanding of computer science

• Willingness to learn quickly and apply feedback

• Basic knowledge of computer vision (helpful but not required)

• Strong interest in Data Science (The GUI has strong baseline, but the neural network attention)

Skills You Will Learn

• Computer vision

• Interdisciplinary teamwork and communication

• Adaptability in a highly competitive sports environment

• Real-world AI application development in a sports context

Work Location

You are free to work wherever you are most productive. Check-in meetings will be held via Google Meet or Zoom—whichever is more convenient for the group.

Post-Field Session

The use of technology in football is rapidly expanding. While we can't predict the future of this space, we believe this project has the potential to meaningfully impact the broader football community. If successful, this tool will be used by Colorado School of Mines Football as a first client, with the possibility for future growth. With initial progress, we see the potential for expansion and future paid positions.

Team Agreement

Upon joining the team, students will be asked to sign an agreement related to non-disclosure and intellectual property. While we do not anticipate requiring a strict NDA for

the work students will perform, we will ask that one be signed so that we can share resources and information openly. This will not prevent students from sharing non-confidential details of the project in job interviews or other professional settings. All intellectual property created during this project will be solely owned by Anthony Makransky, with paperwork to support the assignment. Students are welcome to share the project overview and may request reference letters related to their contributions, especially if it supports their career goals.

Point of Contact

Please send any questions to: Anthony Makransky – amakransky@mines.edu