Coachable: Court Vision

About the Company

Coachable is an early stage startup that is leveraging **artificial intelligence** to change the way sports coaches evaluate team performance. The founders of Coachable have participated in CSM Field Session projects dating back to 2009 - and have a great deal of experience in helping Field Session teams with **successful outcomes**.

About You

- You have a deep interest in **computer vision, neural networks and deep learning**.
- You take extra math courses - for fun!
- You believe in a world where computer vision is solving problems much harder than identifying cats on the internet - not that there's anything wrong with that 🐱.

About the Project

Coachable is developing technology that leverages computer vision and deep learning to perform real-time analysis of high school basketball games from a single, fixed-position video camera. You will assist in evaluating and prototyping the **core technology** for the platform.

Project Objectives

Investigate, prototype and recommend the ideal architecture for a system that does object detection and tracking for a basketball game recorded from a single camera fixed-location.
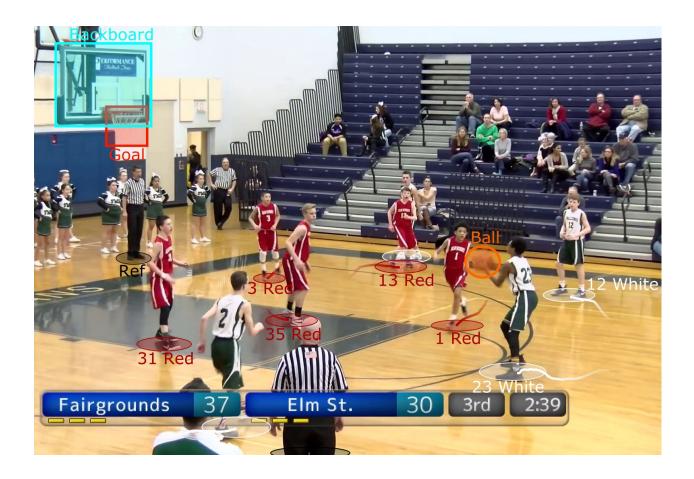- Identify players, referees, and equipment (ball, backboard, rim).
- Track the location of players and the ball.
- Develop a mechanism for translating the video (x,y) position of identified objects to a coordinate system on a basketball court - accounting for panning, tilting, zooming, etc.

A successful project will:
- identify the pros and cons to the variety of possible computer vision architectures.
- demonstrate the feasibility and efficacy of real-time identification and tracking of players, equipment, and playing surface.
- identify and demonstrate a mechanism for translating video coordinates to playing surface coordinates.

Team Size & Logistics

- A **team size of 4 would be ideal**, however 3 to 4 team members could be accommodated.
- Coachable is a remote team, so **you will also <u>work remote</u>**! All meetings will be done via Google Hangouts or Zoom.
- We utilize **agile software development practices**, and will work with your schedule to set up a meeting cadence that supports those practices (sprint planning, standups, reviews & retrospectives).

Internships

Up to one paid internship will be available for the remainder of the summer following Field Session to continue work on this project.

Intellectual Property

IP for this project shall be assigned to the company.