



WE INNOVATED PERFORMANCE GOLF THROUGH AI LEARNING



<p>Objective</p> <p>Develop a real-time AI model to analyze a player's swing data and deliver relative training videos for areas in need of improvement.</p>	<p>Solution</p> <p>Seisan created a cross platform solution that displays a user's swing through an avatar model view to accurately pinpoint points of concern and serve up video solutions with course for improvement.</p>
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LEVERAGED TECHNOLOGIES

- Machine Learning
- AI
- Python
- Unity
- AWS

PLATFORM INTEGRATION

- Mediapipe
- FFmpeg
- OpenCV
- MoviePy

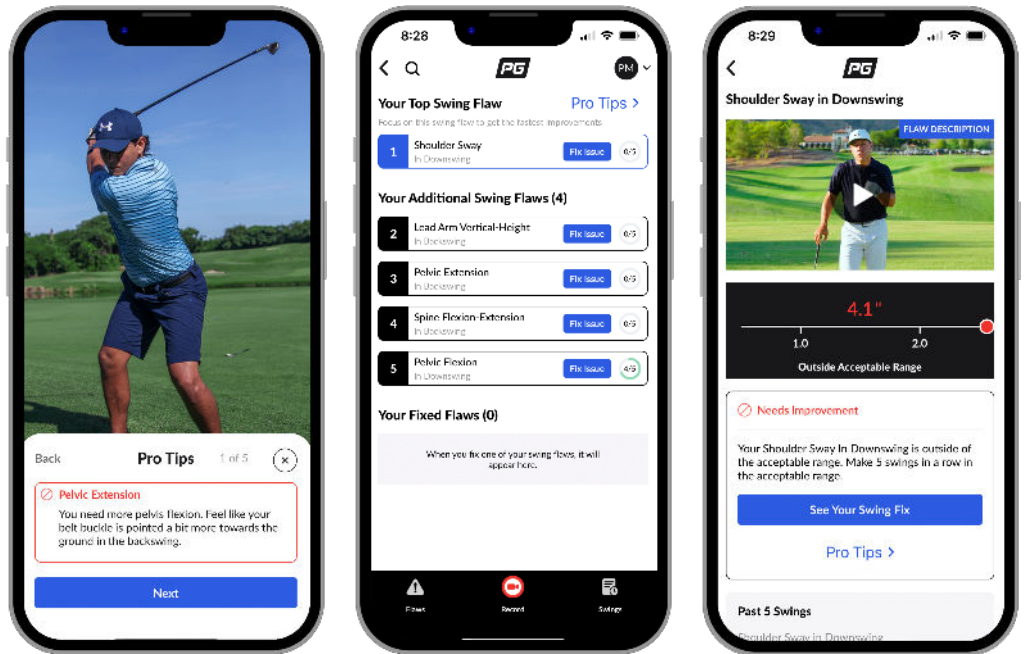
CORE CAPABILITIES

- Golf Tech
- UX/UI
- Improved Architecture Design

EXTENSION OPPORTUNITIES

- NEED THIS OR DUMP IT

Seisan worked with Performance Golf to develop a cutting-edge custom artificial intelligence model and interface for real-time swing analysis that serves up targeted training videos to consumers.



Performance Golf is a leading online golf instruction company that provides golfers of all levels with the tools and video training courses featuring instruction from some of the world's most prestigious golf instructors and tour pros.

Seisan was excited to add to their already successful set of tools, including machine learning and AI development to create a model that analyzes a player's swing uploaded from their mobile device.

SEISAN'S APPROACH / AI SWING MODEL

PROJECT OVERVIEW

Performance Golf aimed to offer golfers real-time feedback on their swings and provide video modules to help them focus on specific areas of their game. By integrating these features into their mobile app, golfers now have a centralized platform for improving their swing and connecting with professionals.

Seisan collaborated with Performance Golf's founder to develop a cutting-edge custom artificial intelligence model and interface for real-time swing analysis. Following the analysis, targeted videos are delivered to highlight areas for improvement.

TECHNOLOGY DETAILS

Seisan utilized their expertise in machine learning and AI development to create a model that analyzes a player's swing uploaded from their device. The Unity game engine was employed to generate a model of the player based on their swing video, providing a reference for detailed analysis.

Python was used for the machine learning development, while integrations with OpenCV, FFmpeg, and MoviePy enabled video manipulation to extract crucial data for the analysis.

RESULTS

Seisan's delivery of a mobile application designed to analyze a user's swing and provide personalized feedback for improvement. Leveraging AI and machine learning, the app evaluates the user's swing against seventeen critical points, identifies the top five flaws, and then suggests targeted training drills and instructional videos to address these issues.

The app successfully implemented AI algorithms to analyze users' swings in real-time, ensuring accurate and consistent evaluation against the predefined seventeen swing points. The machine learning models were able to accurately detect and rank the top five swing flaws for each user, providing personalized insights tailored to individual performance.

The app saw high user engagement, with users frequently revisiting the app to track their progress, view recommended drills, and watch instructional videos, leading to measurable improvements in swing performance over time. The recommended drills and videos were well-received by users, who reported significant improvements in their swing mechanics after consistent use of the app's training resources.

The app was designed with scalability in mind, allowing for smooth performance even with a growing user base and large data sets generated from swing analyses.

The project successfully delivered a mobile app that leverages AI and machine learning to provide actionable feedback on users' swing mechanics. By identifying key flaws and offering targeted training solutions, the app has become a valuable tool for users looking to improve their swing and overall performance.

SWINGFIX AI

Uses 3D motion-capture sensors to read 17 data points in your swing using your phone camera.

Identifies pre and post-impact swing flaws that require the most improvement.

Delivers customized drills and techniques focused on the immediate areas of need to improve your game as fast as possible.

