

MATTHEW WILCOX

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TECHNICAL SKILLS

Languages: R, Python

AI Frameworks: LangChain, Hugging Face, Ollama, Kokoro, Playwright

Cloud AI Services: AWS Bedrock, AWS Polly, Claude API

ML: Random Forest, XGBoost, SVM, Neural Networks, GAN

Dev Tools & Infrastructure: FastAPI, Docker, Linux, Machine Virtualization

Databases: SQL (MySQL, MSSQL, SQLite), CouchDB, Redis, Neo4j

Sports Analytics: Catapult, Statsbomb, Wyscout, Hudl, PFF, EliteForm, Oura, Perch, Hawkins Dynamics, VALD, MX3, Trackman, Rapsodo, Focus

Other: Tableau, Excel, Power BI

EDUCATION

M.S. Applied Data Science

New College of Florida | Sarasota, FL | GPA: 3.94 | Men's Soccer Goalkeeper

May 2025

B.S. Data Science & Finance

Ramapo College of New Jersey | Mahwah, NJ | GPA: 3.48 | Men's Soccer Goalkeeper, Dean's List, Student Athletic Council

May 2023

Certification: Data Visualization with Tableau, Coursera, September 2024

PROFESSIONAL EXPERIENCE

Sports Science Fellow

Rutgers University – Football

May 2025 – Feb 2026

- Automated running kinematics phase detection using machine learning models.
- Designed and implemented a SQL database and automated ETL pipelines to centralize athlete monitoring data and provide integration with dashboards and apps.
- Assist in data collection and processing for Vald, Catapult, 1080 Sprint, and Oura Rings.
- Developed algorithms for automatic run event detection using GPS data informed by academic research.
- Constructed tools to analyze Velocity Decrement in resistance training.

Sports Science Intern

Duke University Athletics

January 2025 – May 2025

- Designed and implemented custom softball-specific load metrics using Catapult wearable data.
- Built interactive Shiny dashboards and automated daily/weekly reports.
- Led development of a 250+ page base running analysis using GPS/velocity.
- Aligned Trackman pitch timestamps with Catapult 100 Hz data to label pitch events for predictive modeling.

Assistant & Goalkeeper Coach, Men's Soccer

New College of Florida

Aug 2023 – Dec 2024

- Analyzed and presented post-match Wyscout reports, delivering actionable insights to coaching staff.
- Communicate data-driven recommendations for player performance optimization and tactical adjustments.
- Designed and conducted goalkeeper training sessions five times per week to enhance player development.

Graduate Research Assistant

New College of Florida

Sep 2024 – Dec 2024

- Scraped match day shooting and XG data from various online sources.
- Replicated prior research using an updated scraped dataset.

Graduate Student Research Intern

USDA ARS (Remote)

May 2024 – Aug 2024

- Built Random Forest, XGBoost, Support Vector Machine, and Neural Network models to analyze film properties.
- Conducted significance testing and feature selection to optimize model performance.

Head Coach

DME, Sarasota, FL

Aug 2024 – Dec 2024

PROJECTS

AudioPaper

Self-hosted academic podcast pipeline | Python, Playwright, AWS Bedrock, Claude Sonnet, Kokoro TTS, SQLite

April 2026

- Built a personal NPR-style podcast generator that scrapes Springer Nature PDFs via Playwright, parses each article into structured metadata using Claude Sonnet on AWS Bedrock, and stores results in a SQLite database for filtering and playback.
- Engineered a two-voice episode structure using Kokoro TTS — a narrator delivers AI-written article intros from summaries while a reader voices the full original text, stitched into a single WAV with chapter timestamps.

Catapult Annotation Editor

Shiny Web App | R, Shiny, Catapult Connect API

November 2025

- Designed and deployed a Shiny web app providing a richer interface for creating, editing, and bulk-importing annotations into the Catapult OpenField system via the Connect API.
- Implemented CSV-based bulk import, multi-region API support, and session-safe token handling. with no server-side storage of credentials or athlete data.

CatapultPy

Python Package | Catapult OpenField API, Python, pandas

April 2025

- Built and published a lightweight Python wrapper for the Catapult Sports OpenField API, modeled after CatapultR, enabling Python-native data pipelines for GPS and athlete load monitoring.

EliteformR

R Package | EliteForm API, R, devtools

September 2025

- Developed and published an R package (via devtools/GitHub) that interfaces with EliteForm servers, enabling streamlined retrieval and analysis of velocity-based training data from weight room systems powered by computer vision.
- Developed reusable API wrappers and data pipelines to standardize EliteForm data access for sports science workflows, reducing manual data handling and improving reproducibility.