

Sajjad Habibi Ehsani

Sport Scientist · Applied ML Engineer · Elite Combat-Sport Practitioner

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RESEARCH INTERESTS

Data-driven athlete monitoring, fatigue, and recovery — including deployed ML systems for individualised, load-responsive recovery and nutrition protocols. Neuromechanical injury risk in combat sports, and the interaction of mental fatigue and hormonal regulation with soft-tissue injury in elite athletes. I bring hands-on experience as the architect of a production bio-adaptive recovery platform, combined with direct longitudinal access to elite combat athletes through my coaching practice — a combination of applied sport science, machine-learning execution, and athlete access that very few graduate applicants in the field can offer.

EDUCATION

University of Tehran — *Tehran, Iran* — Jan 2018 – Jun 2022 **B.Sc., Sport Sciences** - GPA **17.28 / 20** (First-Class Honours equivalent) - **Ranked 1st** in the department at Iran's #1-ranked university - Recognized as a "Top Talent" student (national distinction) - Manager, University of Tehran Mountaineering Group

PROFESSIONAL & RESEARCH EXPERIENCE

Algorithm Architect — Moneli Automation

~2024 – Present (*full-time*) - **Architected the bio-adaptive nutrition algorithms** that form the core logic of Moneli Automation's deployed recovery platform, working directly under CTO **Mohammad Esmalifalak**. - Designed and implemented (Python, scikit-learn) the ML pipelines that transform **real-time physiological data into precise, load-responsive nutrition and recovery protocols** at the individual user level. - Combined hands-on software development with sport-science domain expertise — translating principles of fatigue, recovery, substrate utilisation, and individual response into deployable production models. - Bridged sport-science theory and applied machine-learning implementation inside a live product environment.

Independent Researcher — Data-Driven Athlete Monitoring & Digital Health

2022 – Present - Built Python pipelines (Pandas, NumPy, scikit-learn) to process longitudinal

physiological data — heart rate, RPE, sleep, training load — from elite combat athletes I personally coach, separate from the Moneli platform. - Modelled correlations between lifestyle load (stress, activity, sleep) and physiological recovery markers; visualised individual longitudinal trajectories to inform return-to-training decisions. - **In progress:** comprehensive review article on the interaction of hormonal regulation, mental fatigue, and physical injury in elite athletes.

Research Assistant — Neuromechanical Injury Risk in Combat Sports

2023 – 2024 - Conducted systematic literature reviews on neuromechanical injury risk factors in wrestling, MMA, and grappling sports. - Applied regression-based statistical models to identify predictors of soft-tissue injury from training-load and athlete-history data. - Investigated effects of acute fatigue and nutritional state on motor control and reaction time in elite wrestlers.

APPLIED COACHING & HIGH-PERFORMANCE EXPERIENCE

Elite Performance & Strength Coach — *Independent & various academies* — 2022 – Present

- Assistant Coach to Olympic Head Coach **Mohsen Kaveh** at his elite private wrestling academy.
- Designed individualised strength, conditioning, and injury-prevention programmes for World- and Asian-level combat athletes.
- 3+ years of private S&C programming and nutrition planning for elite combat athletes.
- MMA and Wrestling Coach, Last Round Club, Turkey.

Head Wrestling Coach — *University of Tehran* — 2022 – 2024

- Led periodised training cycles aligned with national university competition seasons.
- Guided the team to a **National University Championship title**.
- Coached two student-athletes to **World Championship medal performances**.

Youth Development & Talent Identification Coach

- Designed motor-development programmes for early childhood (ages 3–6).
- Contributed to talent-identification screening protocols for ages 7–10.

Gym Manager & Head Coach — *Private Athletic Club* — 1 year

ELITE ATHLETIC ACHIEVEMENTS

- **National Team Member**, Iran National Wrestling and Jiu-Jitsu Teams
- **7th Place**, Junior World Championships (Estonia); competitor at AIGA World Championships (Istanbul)

- **Bronze Medalist**, Victory Cup (Turkey)
- **Purple Belt**, Brazilian Jiu-Jitsu (Checkmat Team)
- **1st Place**, Regional CrossFit Competitions
- Multiple **National Wrestling Titles** from Cadet to Senior level

This elite combat-sport background gives me direct, longitudinal access to a population of athletes that is notoriously hard to recruit for sport-science research — a methodological asset I bring to any host lab.

TECHNICAL SKILLS

Programming & Machine Learning: Python (Pandas, NumPy, scikit-learn) for production ML pipelines; real-time physiological data engineering; algorithm design and deployment; SPSS; advanced Excel
Sport-Science Lab Methods: VO₂max testing, ECG interpretation, anthropometry, Functional Movement Screen (FMS)
Applied Performance Tools: RPE-based load monitoring, HRV-guided training, periodisation, bio-adaptive recovery protocol design

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

- **Level 3 Strength & Conditioning Coaching** (international certification)
 - **Neural Networks and Deep Learning** — Coursera (DeepLearning.AI)
 - **NASM Corrective Exercise Specialist** — *in progress*
 - **Fitness Academy Europe (FAE)** — Corrective Exercise
 - University workshops: Functional Training; Overtraining Prediction; Injury Prevention; Children's Play & Sports
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LANGUAGES

- **Persian** — Native
 - **English** — TOEFL iBT **89** (academic working proficiency)
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REFERENCES

Available on request.