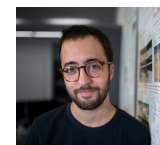




# Adrià Arbués Sangüesa



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## EDUCATION

### UNIVERSITAT POMPEU FABRA PHD FELLOW

From October 2017 | Barcelona, Spain

Title: A Journey of Computer Vision in Sports: from Tracking to Orientation-based Metrics.

Expected graduation: October 2021.

### AALBORG UNIVERSITY

#### MSc IN VISION, GRAPHICS AND INTERACTIVE SYSTEMS

September 2015 - June 2017 | Aalborg, Denmark

### UNIVERSITAT POMPEU FABRA

#### BEng IN AUDIOVISUALS SYSTEMS ENGINEERING

September 2011 - July 2015 | Barcelona, Spain

## TEACHING (ACADEMIA)

### Associate Professor at UPF:

- Classical Image Processing
- Machine Learning
- Video Processing
- Computer Vision (graduate studies)

### Visiting Professor:

- Technological Transfer: from Sports to Business (Tecnocampus Mataró)
- Basketball Analytics through AI (UPC)
- Machine Learning in Sports (UCAM)

## SKILLS

### PROGRAMMING

Mastered:

Python (Pandas, Scikit-Learn, TensorFlow, Pytorch, Keras)

• Matlab • C++ • Git

Familiar:

R • Java • PowerBI • Tableau

### LANGUAGES

Mother tongues:

Catalan, Spanish.

Foreign languages:

English (C1).

### STRENGTHS

Leadership, Work Ethic, Team Work, Organization and Time Management, Communicative and Social Skills.

REFERENCES AVAILABLE ON REQUEST

## BASKETBALL PROFESSIONAL EXPERIENCE

### FEDERACIÓN ESPAÑOLA DE BALONCESTO | ADVANCED STATISTICS TEACHER

Since May 2020 | Spain

In charge of teaching the whole module of advanced statistics in the Curso Superior de Entrenadores de Baloncesto (highest National coaching course); taught a solid baseline of state-of-the-art metrics and potential layers of data to be exploited, together with the required technological tools. Other directed data-driven courses: Advanced Statistics course for coaches, offered by ImproveSports and the Aito Garcia Reneses foundation.

### FUTBOL CLUB BARCELONA LASSA | FREELANCE DATA SCIENTIST

July 2017 - March 2020 | Barcelona, Spain

2017 - gathered a novel basketball database and trained a forecasting model from scratch to assess the hiring process by predicting player's performance a posteriori.

2019 - delivered scouting and performance reports to Barça B coaches, with detailed advanced statistics sections. Assessed potential hiring operations through numerical memos.

### FUTBOL CLUB BARCELONA LASSA | ASSISTANT COACH (U15)

July 2018 - July 2019 | Barcelona, Spain

Guided the 2004 generation throughout the whole season, obtaining leadership, teamwork, and communication skills. Some of these players are now youth Euroleague's runners-up.

### CLUB BÀSQUET CORNELLÀ | ASSISTANT COACH (SENIOR TEAM, EBA DIVISION)

July 2017 - July 2018 | Cornellà, Spain

While competing in the 4th Spanish Division, I was in charge of individual/collective scouting reports, both in terms of numerical insights as well as film sessions (opponent's playbook).

### 1D3A (ERIC SPORTS) | SOFTWARE DEVELOPER INTERN

September 2016 - January 2017 | Barcelona, Spain

Changed the codecs of an existing video-analysis platform to provide automatic and robust sport video reports (FFmpeg + C#); provided technological solutions to clubs and academies.

### SIDE-PROJECTS OR REPOSITORIES | BASKETBALL DISSEMINATION

**BueStats:** open-source scrapper designed to automatically extract advanced-statistics reports and databases for all basketball teams in Spanish FEB competitions. [Repository](#)

**BueStuff:** in the past, I wrote opinion and stats articles for digital media (Solobasket, Club Joventut Badalona); lately, I have been publishing freelance Medium posts

**Euroleague-ML:** clustering, classification and regression Python notebooks in order to apply basic ML techniques on top of Euroleague data. [Repository](#)

**Beyond the 4 Factors:** organized and moderated analytics talks with basketball experts, who had experience at topnotch companies or even at a NBA level. [Part 1](#) | [Part 2](#)

## SCIENTIFIC PUBLICATIONS AND CONTRIBUTIONS (SINCE 2018)

- Keynote Talk at CVSports 2021 (CVPR): Bringing Computer Vision to the Court
- Towards Soccer Pass Feasibility Maps: the Role of Players' Orientation, (Journal of Sports Sciences, 2021 - under review)
- Learning Football Body-Orientation as a Matter of Classification (AISA, 2021)
- Always Look on the Bright Side of the Field: Merging Pose and Contextual Data to Estimate Orientation of Soccer Players (ICIP, 2020)
- Using Player's Body-Orientation to Model Pass Feasibility in Soccer (CVSports, 2020 - CVPR)
- Single-Camera Basketball Tracker through Pose and Semantic Feature Fusion (ICAIS, 2019)
- Multi-Person Tracking by Multi-Scale Detection in Basketball Scenarios (IMVIP, 2019)
- Identifying Basketball Plays from Sensor Data; towards a Low-Cost Automatic Extraction of Advanced Statistics, (DAPS, 2018)

## AWARDS (SINCE 2018)

- UPF: The Collider mVentures Award (2018) || EiTIC People's Choice Award (2019).
- CRUE: #HiloTesis dissemination Twitter contest (2021) - national winner.
- Conferences: best paper award at ICAIS (2019), runner-up award at CVSports (2020).