Antonio **Ríos Vila**

PhD

Alicante, Spain

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Education

Ph.D in Computer Science
Alicante, Spain

UNIVERSITY OF ALICANTE · *Oct. 2021 - July 2024*

- Cum Laude result and International Mention achieved.
- Generalitat Valenciana competitive PhD FPU grant (ACIF/365)
- "End-to-end Optical Music Recognition Beyond Staff-Level Transcription", supervised by Jorge Calvo-Zaragoza and José M. Iñesta
- Visiting researcher at the DDMAL laboratory from the McGill University, Canada to work on simultaneous music and lyrics transcription in music documents
- Visiting researcher at the LITIS laboratory University from the Rouen University, France to work on full-page transcription of pianoform music documents

MSc in Data Science, 9.62/10
Alicante, Spain

UNIVERSITY OF ALICANTE · *Sep. 2020 - June 2021*

- "Development of a complete Optical Music Recognition workflow", supervised by Jorge Calvo-Zaragoza and José M. Iñesta
- 4 distinctions, one of them in the end-of-master project
- Best academic record on my class

Bachelor in Multimedia Engineering, 8.70/10
Alicante, Spain

UNIVERSITY OF ALICANTE · *Sep. 2015 - June 2020*

- "ReadSCO: Open-Source Web-based Optical Music Recognition Tool", supervised by Jorge Calvo-Zaragoza and José M. Iñesta
- 2 distinctions

Experience

University of Alicante
Alicante, Spain

PRE-DOCTORAL RESEARCHER · *Oct. 2021 - Ongoing*

- Generalitat Valenciana competitive PhD FPU grant (ACIF/365).
- Main research in end-to-end transcription and information retrieval of music documents.
- Covered topics in Document Image Analysis, mainly Handwritten Text Recognition.
- Published at several conferences and indexed journals.
- Teaching assistant in bachelor and master courses.
- Supervision of end-of-degree projets about Deep Learning applications.

Pattern Recognition and Artificial Intelligence Group
Alicante, Spain

STUDENT INTERN · *Mar. 2021 - Jun. 2021*

- University of Alicante grant recipient to develop my end-of-master project.
- Worked on the application of Machine Translation techniques to complete Optical Music Recognition pipelines.
- Published a journal paper in an Optical Music Recognition special issue (Applied Sciences) and in a conference (ICDAR) as first author.

Pattern Recognition and Artificial Intelligence Group
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RESEARCH ENGINEER · *Sep. 2019 - Mar. 2021*

- Project "Handwritten Spanish Music Heritage Preservation by Automatic Transcription" (HISPAMUS) - TIN2017-86576-R.
- Full-stack development of an internet-based OMR application for musicologists with deep learning technologies.
- Researched on state-of-the art end-to-end transcription and document analysis models.
- Published at ICFHR 2020.

Freelance
Alicante, Spain

WEB DEVELOPMENT · *Mar. 2018 - Sep. 2019*

- Full-stack web development for particular clients.
- Collaborated with University of Alicante research projects.
- Mainly focused on database interaction.

Skills

Machine Learning	Image transcription (OCR, HTR, OMR) · CNN, RNN, Transformer
Machine Learning Frameworks	PyTorch, Tensorflow, Keras, Scikit-learn, NumPy, Pandas
Programming	Python, LaTeX, TypeScript, JavaScript, C, C++, Java, HTML, CSS, PHP, Rust
Web Frameworks	Node.js, Laravel, Spring Boot, Angular, Vue.js, Bootstrap, Materialize
DevOps	Docker, Docker Compose, Kubernettes (basic)
Languages	Spanish (native), English (fluent), French (notions)

Awards

2022	**1st Place**, IV Desafío Aporta, "El valor del Dato para la salud y el bienestar de los ciudadanos" - Spanish Ministry for Digital Transition and Public Function and Data.gob	*Madrid, Spain*
2021	**1st Place**, 1st Generalitat Valenciana Datathon in the Tourism Category	*Valencia, Spain*

Selected Publications

End-to-End Full-Page Optical Music Recognition for Pianoform Sheet Music

Antonio Ríos-Vila, Jorge Calvo-Zaragoza, David Rizo, Thierry Paquet

International Journal on Computer Vision (pending review) ⭘

Sheet Music Transformer: End-To-End Optical Music Recognition Beyond Monophonic Transcription

Antonio Ríos-Vila, Jorge Calvo-Zaragoza, Thierry Paquet

ICDAR 2024 ⭘

A transformer approach for polyphonic audio-to-score transcription

M. Alfaro-Contreras, **Antonio Ríos-Vila**, J.J Valero-Mas, Jorge Calvo-Zaragoza

ICASSP 2024 (Accepted) ⭘

End-to-End page-Level assessment of handwritten text recognition

Enrique Vidal, Alejandro H. Toselli, **Antonio Ríos-Vila**, Jorge Calvo-Zaragoza

Pattern Recognition. 142: 109695. 2023

End-to-end optical music recognition for pianoform sheet music

Antonio Ríos-Vila, David Rizo, José M. Iñesta, Jorge Calvo-Zaragoza

Int. J. Document Anal. Recognit. 26(3): 347-362. 2023 ⭘

A Holistic Approach for Aligned Music and Lyrics Transcription

Juan C. Martinez-Sevilla, **Antonio Ríos-Vila**, Francisco J. Castellanos, Jorge Calvo-Zaragoza

ICDAR 2023 ⭘

End-to-End Full-Page Optical Music Recognition for Mensural Notation

Antonio Ríos-Vila, José M. Iñesta, Jorge Calvo-Zaragoza

ISMIR 2022 ⭘

Few-shot symbol classification via self-supervised learning and nearest neighbor

M. Alfaro-Contreras, **Antonio Ríos-Vila**, J.J Valero-Mas, Jorge Calvo-Zaragoza

Pattern Recognition Letters. 2022 ⭘

Program Committees

2023	**Reviewer**, Pattern Analysis and Applications Special Issue on IbPRIA 2023	*Alicante*
2023	**Organizer & Reviewer**, IbPRIA Conference	*Alicante*
2022	**Local Organizer**, ELLIS Doctoral Symposium	*Alicante*
2021	**Organizer**, MEC Conference	*Alicante*