Miguel Angel Carballo Arispe

Software Developer - Pianist
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EXPERIENCE

Acxiom, Conway AR-USA — *Solution Developer Intern*

February 2023- May 2023

Worked in various projects related to Oracle SQL, Perl Scripts, FUSE and ASC.

Centro de Investigaciones en Nuevas Tecnologías Informáticas, Cochabamba BOLIVIA — *Research Assistant*

March 2016 - July 2017

Worked in various projects related to Software Development, including Java projects, Android App Development, embedded systems, Web Data Visualization, and DataBases.

Truextend. Inc, Cochabamba BOLIVIA — *Software Developer Intern*

March 2014 - April 2014

Worked on projects as a part of the Software Developer team using C#, JavaScript, and JQuery.

Central Baptist College, Conway AR-USA — *Piano Accompanist*

August 2020 - May 2021

Worked as a piano accompanist for soloists and choir in recitals, musicals, competitions, and juries.

Academia Nacional de Música Man Césped, Cochabamba BOLIVIA — *Piano Teacher*

February 2010 - September 2016

Worked on teaching piano technique and interpretation to initial/middle/advanced level students.

EDUCATION

Indiana University Purdue University Indianapolis, Indianapolis IN - USA — *PhD in Music Technology*

August 2023 - In progress

University of Central Arkansas, Conway AR - USA — *Master of Science/ Computer Science*

August 2021 - May 2023 - GPA : 4.0

University of Central Arkansas, Conway AR - USA — *Master of Music/ Piano Performance*

August 2018 - May 2020. GPA: 3.9

Universidad Privada Boliviana, Cochabamba BOLIVIA — *Bachelor Degree/ Computer Systems Engineering*

February 2010 - December 2015. GPA: 3.6

SKILLS

Programming/scripting languages: Java, Kotlin, C#, JavaScript, PHP, Python, Perl, C++, C.

Databases: Oracle SQL, MySQL, MongoDB, SQLite

VR Development / Unity3D

Audio Production: Logic Pro, Audacity, Reaper64

Advanced music Sight-reading, music theory and Score Analysis

Piano Pedagogy

Advanced accompanist skills

AWARDS

2nd Place in the Plurinational Prize for Science and Technology - Bolivia 2016 in the category *Industrial Transformation*.

2nd Place in the Plurinational Prize for Science and Technology - Bolivia 2015 in the category *Information and Communication Technologies*

UPB "The Best 100" Scholarship (2010 - 2015) - Assigned to the best 100 students of Cochabamba State.

UCA Music Scholarship (2017 -2020)

Selected Pianist of Teatro del Lago International Academy Orchestra - Chile 2015

1st Prize National Piano Competition - Bolivia 2007

LANGUAGES

English, Spanish

FiMAN: A computer system for Finger Motion Analysis — *Software/Paper (2015)*

A computer system that allows capturing, recording, analyzing and visualizing finger and hand motion in 3D Polygon Mesh in real-time using a Leap Motion sensor and Java SDK. The real life usage of FiMAN, demonstrated its modularity and extensibility for its applicability in different areas related to motion analysis.

Smartphone Spectrometer: SpectraUPB App — *Software (2017)*

Android App that enables wavelength calibration, which allows to obtain values of absorbance, transmittance and obtains spectral curves in real-time using a low-cost 3D printed spectrometer attached to an Android Smartphone camera.

MUSIC TO COLORS: VR Synesthesia Experience — *Software (2022)*

"Music to Colors" is an app developed for Oculus Quest 2 that converts music MIDI files into colors in a VR environment. The user is able to listen to MIDI music and at the same time visualize the representation of the sound converted into 3D objects/effects with colors related to the notes played.

VR Game: A Prima Vista — *Software (2021 -)*

A VR Educational/Rhythm Single Player game for Oculus Quest 2 headset that teaches how to sight-read music from a music score. The development of this game involved the conversion of MIDI files to a VR Music Score and the creation of a functional VR Keyboard using Unity3D.

Music Reading Training Using Minimax — *Webpage(2022)*

Simple web page developed as a tool that helps in the basic reading music training process using the decision rule Minimax and it was programmed/scripted in JavaScript following the concept of music notation flashcards.

Handwritten Music Symbol Recognition -*Neural Network (2022)*

Convolutional Neural Network (in Python) that generates models to recognize 32 isolated different handwritten music symbols with a good level of accuracy. Once the models were produced, they were evaluated with self generated images, giving promising results that might be used in future research.

Web Data Visualization CINTI-CEGIE — *Software (2016)*

PHP-based Web Data Visualization tool that allows to create DataBases automatically based on the structure of the poll loaded from XLS files, deducing all the required tables and constraints