

# Juan Camilo Arévalo Arboleda

Ph.D. student in Computer Science and Engineering

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## Summary

Computer scientist with expertise in audio processing, audio spatialization, extended reality (XR) development, interactive systems, and web development. Experience in international and interdisciplinary research groups. Stands out for excellent performance in programming code and versatility between programming languages and tools.

**Interests:** Research, XR development, parallel processing, and machine learning.

## Experience

### Teaching Assistant

University of Aizu

Currently —04/2019

Aizuwakamatsu, Japan

- Assist lectures and exercises of virtual reality, sound and audio processing, C++ programming, computer graphics, introduction to data management, and introduction to multimedia.
- Tasks: Prepare material for lectures, grade undergraduate courses exercises/quizzes, and solve student doubts regarding the course contents.

### Research Assistant

Pontifical Javeriana University Cali

12/2018 —06/2018

Cali, Colombia

- Built an online game “*Tramas: parques intercultural*,” as a didactic tool to promote the intercultural dialogue.
- Perform user validations.
- Server deploy and administration.

### Internship

University Complutense of Madrid

11/2018

Madrid, Spain

- Researched and implemented a tracking map for artwork of artistic heritage value during the Spanish civil war and postwar.
- Server administration.

### Research Assistant

Pontifical Javeriana University Cali

12/2014 —08/2014

Cali, Colombia

- Researched, designed, and implemented an algorithm capable of finding salsa song choruses for the construction of a data set.

## Education

### Ph.D. in Computer Science and Engineering University of Aizu

(expected graduation) 03/2024 —04/2021

Aizuwakamatsu, Japan

Research topic: Audio spatialization, all grades A.

### M.Sc. in Computer Science and Engineering University of Aizu

03/2021 —04/2019

Aizuwakamatsu, Japan

Research topic: Audio spatialization, all grades A.

### B.Sc. in Computer Science Pontifical Javeriana University Cali

11/2018 —07/2012

Cali, Colombia

GPA: 3.81/5.0. Program with ABET international accreditation.

## Achievements

### Outstanding student research assistantship

Granted by the University of Aizu for the period 04/2022—03/2023 due to the performance during the first year of the doctoral program.

### 3rd prize in AES student competition: MATLAB plugin 2021

International competition to design an audio production VST plugin using MATLAB.

### Cum Laude baccalaureate in computer sciences

Granted by the Pontifical Javeriana University Cali.

### 3rd prize in Expo poster REDIS South West Node 2018

Research graduation contest held by 21 undergraduate Computer Science programs institutions in Colombia.

### Ranked 8th in the ACM ICPC South America / North Regional 2016

Member of “PUJC-CodeBreakers” team from 2013 to 2016 (best rank at 2016).

## Publications

Search author as **Camilo Arevalo** or with the ORCID 0000-0002-3505-2092 in [Google scholar](#) or [Research Gate](#). **3** journals and **8** conference papers. Relevant papers:

- Virtual Reality Tool for Exploration of Three-Dimensional Cellular Automata.
- Usability and Narrative Geolocation for the Monitoring of Spanish Artistic Heritage.
- Real-time Spatialization via Eigen Decomposition of Head-related Transfer Functions.

## Skills

### Programming

C/C++/C#	(6 years)
Python	(6 years)
JavaScript	(4 years)
PHP	(4 years)
R	(4 years)
SQL	(4 years)
Java	(2 years)
Lisp	(2 years)
Ruby	(2 years)

### Frameworks & tools

Matlab	(5 years)
Unity	(5 years)
AngularJS	(3 years)
Arduino	(3 years)
Bootstrap	(3 years)
MySQL	(3 years)
NodeJS	(3 years)
OpenMP/MPI	(3 years)
Pure Data	(3 years)
Keras	(2 years)
OpenCV	(2 years)
Docker	(2 years)
React	(2 years)

### Languages

Spanish	(Native)
English	(Fluent)
Japanese	(Intermediate)

December 22, 2022