

# Juan S. Gómez

ELECTRONIC ENGINEER · MUSICIAN

Ilmenau, Germany

## Education

### TUI (Technische Universität Ilmenau)

Ilmenau, Germany

#### M.Sc. IN MEDIA TECHNOLOGY

Apr. 2016 - Exp. May. 2018

- Main objectives of studies:
  - Deep learning research in Music Information Retrieval applications, digital signal processing, audio technology, and video technology
- Master thesis: Automatic Instrument Recognition with Deep Convolutional Neural Networks (CNN)
  - Implementation of a state of the art CNN (Y. Han et al. IEEE/ACM T. Aud., Sp., and Lang. Proc. 25 (2017) 208) for instrument recognition in polyphonic audio mixtures (Python)
  - Implement preprocessing techniques to improve instrument recognition results with dedicated algorithms of harmonic/percussive, solo/accompaniment audio separation
- Latest Project: Audio object localization and recognition using multiple microphones on a robotic platform
  - Digital signal processing for sound source time delay estimation on a circular microphone array and use of support vector machines for sound source activity detection
  - Created a real-time audio processing framework in Python to run on a single board computer and control the robot's motion towards a source of interest (speech) in adverse acoustic environments (reverberation, noise and music)
  - Final mark (Media Project): 1.3

### UNIANDES (Universidad de los Andes)

Bogotá, Colombia

#### B.A. IN MUSIC WITH EMPHASIS IN AUDIO PRODUCTION

Aug. 2008 - Mar. 2013

- Bachelor thesis: Acoustic characterization of an anechoic chamber
  - Acoustic measurements using Smaart software (Rational Acoustics) to propose an extension of the anechoic chamber's functionality to perform acoustic experiments
  - Final mark (Proyecto de Grado): 4.5/5.0

### UNIANDES (Universidad de los Andes)

Bogotá, Colombia

#### B.S. IN ELECTRONIC ENGINEERING

Aug. 2005 - Oct. 2011

- Bachelor thesis: Wireless networks for rural schools in Villa de Leyva
  - Design and testing of a long-range wireless network to provide internet access to remote rural schools
  - Final mark (Taller de Comunicaciones): 4.0/5.0

### CSC (Colegio San Carlos)

Bogotá, Colombia

#### HIGHSCHOOL

Jan. 1994 - May 2005

## Experience

### UNICENTRAL UMA (Universidad Central - Audiovisual Media Unit)

Bogotá, Colombia

#### PREVENTIVE AND CORRECTIVE MAINTENANCE ENGINEER

Feb. 2014 - Dic. 2015

- Carry out the installation a new full HD television studio with Panasonic Studio 300 System
- Design and implementation of a big-data/high-speed system for on-line audiovisual edition and production with fiber optics and centralized file system
- Live video transmission of events

### MONTECZ S.A.

Quito & Sto. Domingo, Ecuador

#### ON-FIELD INFORMATION AND COMMUNICATIONS TECHNOLOGY SUPERVISOR

Jul 2013 - Dic. 2013

- ICT supervision of the modernization project of the pipeline Quito-Esmeraldas of PetroEcuador
- Supervision of the installation and deployment of fiber optics
- Supervision of construction of telecommunication towers

### SOFTWARE shop

Bogotá, Colombia

#### PRODUCT MANAGER (CREATIVITY AREA)

Jun. 2011 - Jun. 2013

- Offer marketing support for the sale of specialized music/video software
- Offer training in audio software, such as Pro Tools, Reason, Melodyne, to improve sales

## Honors & Awards

- 2015 **Scholarship**, DAAD (Deutsche Akademische Austausch Dienst)
- 2015 **Scholarship**, COLFUTURO (Fundación para el Futuro de Colombia)

*Germany*

*Colombia*

## Additional Courses

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- 2017 **Neural Networks for Machine Learning**, University of Toronto (Coursera) *Online*
- 2017 **Machine Learning**, University of Stanford (Coursera) *Online*
- 2017 **Audio Signal Processing for Music Applications**, Universitat Pompeu Fabra (Coursera) *Online*

## Languages

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**Spanish**, Native language

**English**, Level: C2 (TOEFL iBT: 100)

**German**, Level: B1

## Skills

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**Programming Skills**, Python, Matlab, Bash

**OS Preference**, GNU/Linux (Ubuntu, BackTrack, Kali), MacOS, Windows

## Interests

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**Amateur instrumentalist**, guitar, harmonica, keyboard, and blues

**Sports**, bicycle and basketball