

# Hugo Flores García

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[Website](#) // [Google Scholar](#) // [GitHub](#)

## BIO

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I'm a researcher working at the intersection of machine learning, music, and human computer interaction. I'm interested in sound event detection, audio source separation, and interfaces for inclusive music creation.

## EDUCATION

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**Northwestern University**  
*Ph.D. in Computer Science*

Evanston, IL  
2020 - Present (expected 2025)

**Georgia Southern University**  
*B.S. in Electrical Engineering*

Statesboro, GA  
2016 - 2020

## EXPERIENCE

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**Northwestern University**  
*Research Assistant, Interactive Audio Lab*  
• Advisor: Bryan Pardo

Evanston, IL  
2020.08 - present

**Audacity (Google Summer of Code)**  
*Developer*

Remote  
2021.05-2021.09

- Source Separation and Extensible Deep Learning Tools

**Georgia Southern University**  
*Research Assistant*  
• Advisor: Fernando Ríos

Statesboro, GA  
2018.08 - 2020.05

## PUBLICATIONS

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1. H. Flores Garcia, A. Aguilar, E. Manilow, D. Vedenko, and B. Pardo. Deep learning tools for audacity: Helping researchers expand the artist's toolkit. In *5th Workshop on Machine Learning for Creativity and Design at NeurIPS 2021*, 2021
2. H. Flores Garcia, A. Aguilar, E. Manilow, and B. Pardo. Leveraging hierarchical structures for few-shot musical instrument recognition. In *Proceedings of the 22nd International Society of Music Information Retrieval Conference*, 2021

## OPEN SOURCE SOFTWARE

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**Audacity (Audio Editor)**  
*Developer*

2021 - Present

Contributed a software framework that lets deep learning practitioners easily integrate their own PyTorch models into the open-source Audacity DAW. This lets ML audio researchers put tools in the hands of sound artists without doing DAW-specific development work.

See <https://interactiveaudiolab.github.io/project/audacity.html>.

**audacitorch**

*Lead Developer*

2021 - Present

PyTorch wrappers for using your deep model in Audacity, and sharing it with the community!

See <https://github.com/hugofloresgarcia/audacitorch>.

## **torchopenl3**

*Lead Developer*

*2020 - Present*

A PyTorch port of the OpenL3 audio embedding model.

Used as class materials for **CS 352 - Machine Perception of Music and Audio**

See <https://github.com/hugofloresgarcia/torchopenl3>.

## **Philharmonia Dataset**

*Lead Developer*

*2020 - Present*

PyTorch dataset bindings for the Philharmonia Orchestra sound samples.

Used as class materials for **CS 352 - Machine Perception of Music and Audio**

See <https://github.com/hugofloresgarcia/philharmonia-dataset>.

## **TALKS**

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### **Leveraging Hierarchical Structures for Few-Shot Musical Instrument Recognition**

*ISMIR 2021*

*November 9 2021*

### **Deep Learning Tools For Audacity: Helping Researchers Expand the Artist's Toolkit**

*Bay Innovative Signal Hackers (BISH) Bash*

*October 27 2021*

## **HONORS AND AWARDS**

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### **Cognitive Science Fellowship**

*Northwestern University*

*2020 - 2021*

### **Lewis and Charlene Stewart Jazz Scholarship**

*Georgia Southern University*

*2016 - 2020*

### **Coastal Jazz Scholarship**

*Coastal Jazz Association*

*2019*

### **Undergraduate Research Grant**

*Georgia Southern University*

*2018*

### **Honors Program 1906 Scholarship**

*Georgia Southern University*

*2016-2020*

## **SKILLS**

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- **Programming Languages** - *Expert*: Python, C++ , *Intermediate*: Javascript
- **Machine Learning** - *Expert*: PyTorch, Scipy, Numpy, Scikit-learn , *Intermediate*: TensorFlow
- **Creative Coding** - OpenFrameworks, P5js, SuperCollider, Max/MSP
- **Music Production** - Logic Pro, Avid ProTools
- **Languages** - I can read/write/speak English and Spanish proficiently.

## **TEACHING**

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### **Teaching Assistant**

*Northwestern University*

*Fall 2021*

EECS 349 – Intro to Machine Learning

### **Teaching Assistant**

*Georgia Southern University*

*2018 - 2019*

Electric Circuit Analysis

## **SERVICE**

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### **Board Member**

*Latin@CS - Northwestern University*

*Fall 2021*