Henry Ives

Software Engineer

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[henryives.com](https://www.henryives.com/) | [linkedin.com/in/henry-ives](https://www.linkedin.com/in/henry-ives/) | [github.com/iveshenry18](https://github.com/iveshenry18/)

# Education

Colorado State University | Fort Collins, CO Graduation: 5/2022

* B.S. Computer Science - 4.0 GPA Coursework completed: 8/2020
* B.M. Music Composition - 3.98 GPA

# Skills

Most Experience – Python (TensorFlow, Django), JavaScript (React, Node.js), Java, Microsoft Excel, Linux, Windows,

#### OO Design and Analysis, Test-Driven Development, Continuous Integration, Agile Development

Some Experience – HTML, CSS, C++, SQL (MySQL, MariaDB), C, Bash, G Suite APIs, Google Cloud Platform

Familiar – Ruby (Rails), PowerShell, Flask

# Projects and Coursework

[“Tone Encoder” Deep Autoencoder](https://github.com/iveshenry18/tone-encoder/blob/master/Tone%20Encoder.ipynb) | CS445 – Machine Learning

* Architected and trained a 13-layer metadata-informed deep convolutional autoencoder for reproducing sound files
* Maximized pipeline efficiency using end-to-end TensorFlow and Keras for data ingestion, pre-processing, and training
* Migrated the model from Jupyter Notebook to Google Colaboratory to take advantage of Google Cloud TPUs, then trained the model for over 20 hours on the 70+ GB NSynth Dataset
* Analyzed and visualized the results using matplotlib, as well as Fourier analysis and other digital signal processing methods

Trip Planning Web Application | CS314 – Software Engineering

* Lead a team of four in the development of a web app for measuring distances and optimizing trips between locations
* Developed both the React.js user interface as well as the Java and MySQL backend, operating as a REST API using Java Spark
* Delivered working features and high-quality code on a bi-weekly basis within a Scrum agile framework using Git, GitHub, ZenHub Kanban boards, TravisCI, and Code Climate
* Engaged in test-driven development using JUnit and Jest, exceeding code coverage and maintainability standards.

[henryives.com](https://www.henryives.com/) | Independent

* Designed, built, and continuously maintain a custom website to showcase my composition and software work using Wix
* Create interactive, expressive features using Wix’s jQuery-like JavaScript frontend and a Node.js backend

[Touchless MIDI IoT Device](https://github.com/iveshenry18/touchless-midi) | CS356 - Operating Systems

* Prototyped a device that allows a user to control virtual musical instruments by moving their hand in front of a sensor
* Developed Python and Bash scripts and configured 3rd-party software to collect, process, and transmit data in real-time
* Tuned script parameters to reduce total latency to under 15 ms

# Work Experience

### Amazon Air | Moreno Valley, CA | Seasonal Air Gateway Associate 7/2020–Current

* Sort, scan, stack, and load hundreds of packages per hour in a dynamic and demanding environment
* Anticipate and respond to rapidly shifting operational demands to maximize my contribution to each customer’s experience
* Resourcefully develop innovative approaches to maximize the quantity of packages processed while maintaining quality

### Etiwanda High School | Rancho Cucamonga, CA | Marching Percussion Instructor 12/2019–Current

* Instruct the tenor drum section of one of the nation’s top indoor percussion programs
* Elevate the skills and understanding of the students through technical communication, assignments, and examples
* Increase ensemble efficiency through priority-setting and rehearsal time management

### Freelance | Music Composer, Arranger, and Copyist 8/2019–Current

* Compose and produce original music and arrangements for a variety of ensembles using pen and paper, Finale, and Pro Tools
* Work closely with performers and music directors to align budget, timeline, and artistic vision
* Develop and maintain a personal portfolio website using Wix

# Honors and Achievements

* Dean’s List, CSU College of Natural Sciences (Fall 2017, Spring and Fall 2018, Spring and Fall 2019, Spring 2020)
* Academic and Performance Scholarship Recipient (National Merit, CSU Green and Gold, Creative and Performing Arts)
* Winner of the 2020 SCPA Composition Competition and the 2019 CSU Lower Division Composition Contest
* Member of World Class Marching Ensembles (Blue Knights, 7th place in 2019 DCI World Championships; section leader)
* Principal Percussionist for the CSU Orchestra (Spring 2019)