

CAMILLE NOUFI

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EDUCATION

University of Colorado, Boulder

B.S - Electrical & Computer Engineering May 2017

- GPA: 3.78 – *cum laude*
- Dean's List: 2014 - 2017
- Eta Kappa Nu Honor Society

B.A – Vocal Music 2013-2015

Institute for American Universities

Aix-en-Provence, France Summer 2015

SKILLS

Programming Languages

- Python, C/C++, C#, HTML5/CSS
- Familiar with Java, JavaScript, assembly

Applications

- MATLAB, Mathematica, RStudio
- Git, SQL Server, Visual Studio
- Finale, Audacity, ProTools, Logic X, Ableton

Operating Systems

Unix, Linux, Windows

PROJECTS

“RotoVision” LED Hologram

- System exploits persistence of vision and stereoscopy to build a 3D image. Utilizes 4 TI MCUs and 18 LED strips rotating up to 500 RPM.
- Individual areas of focus: image processing, embedded software design, data transfer, project management

“SmartPiano” Wireless Keyboard

- Functionality includes sensing a tap on a 5-key copper “piano” and wirelessly transmitting corresponding pitch data to a smartphone via an Arduino and ARM MCU
- Developed an Android application to play desired musical pitch and display note information based on the received signal

Musical Genre Classifier via Spectral Analysis

- Created and analyzed spectrograms using MIR techniques such as rhythmic autocorrelation, MFCCs and Pitch Class Profiles to quantify harmonic and spectral characteristics of music in six different genres
- Built clustering and SVM classifiers to learn and predict a song's genre based on harmonic information

EXPERIENCE

MIT Lincoln Laboratory

Group 52: Human Language Technologies

Student Technical Assistant Jan 2018 – August 2018

- Audio signal processing research for speech synthesis and enhancement

Group 92: Advanced Sensors and Techniques

Research Intern Summer 2017

- Developed optimization and signal processing algorithms to create high-resolution satellite images via single-dimension radar data.

Signal Processing Group

DARPA/University of Colorado, Boulder

Undergraduate Researcher September 2016 – May 2017

- Researched feature extraction and machine learning techniques to classify modulation schemes and frequency bands of digital signals.

“Mile 21 A Cappella” at the University of Colorado

Director/Arranger/Sound Engineer August 2013 – July 2017

- Arranged and composed repertoire
- Planned and led weekly rehearsals and gigs, as well as auditions, competitions, concerts and collaborations.
- Released Mile 21's fourth studio album “[You Are Here](#)” on all major listening platforms
- Mastered use of and maintain Mile 21's sound system

Tait Towers

Software Development Intern

Summer 2016

- Designed and implemented a new SQL database and interactive web application for integrators and project managers to create and manage custom hardware/software activation licenses.
- Database and application launched to company server at completion.

Denver Center for the Performing Arts

Assistant Teacher

June 2010 – August 2014

- Taught children ages 5-17 fundamental theatre and communication skills by producing an original musical
- Responsible for parent-academy relations

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PUBLICATIONS

Noufi, Camille. "Identification of Singing Style Techniques Through Spectral Analysis", Extended Abstracts for the Late-Breaking Demo Session of the 18th International Society for Music Information Retrieval Conference, Suzhou, China, 2017.

Shaffer, Kris, Esther Vasiete, Brandon Jaquez, Aaron Davis, Diego Escalante, Calvin Hicks, Joshua McCann, Camille Noufi, and Paul Salminen. "A Cluster Analysis of Harmony in the McGill Billboard Dataset." In review for *Empirical Musicology Review* X.X (20XX): 1-28. Print.