

# Jonathan Pigott

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## WORK EXPERIENCE

**Music Recording/Production Assistant** January 2017 – Present  
Sound Cell Recording Studio, Huntsville, AL

- Assist in recording musicians from a variety of genres in a modern studio environment
- Select amplifiers, microphones, speakers, and digital plugins for recording or repair
- Mix and edit performances into final tracks
- Update recording software and personal computer network

**Electrical Engineer, Embedded Systems Engineer** June 2014 – September 2016

Dynetics, Inc., Huntsville, AL Clearance: Secret

- Supported and collaborated with U.S. Army Aviation and Missile Research, Development, and Engineering Center (AMRDEC) customers
- Tested Javelin, Stinger, and TOW missile electro-optical and infrared sensors
- Created, refined, and troubleshoot Matlab mathematical algorithms for Unmanned Aerial System (UAS) video target tracking, processing, and analysis firmware
- Created Python scripts to automate UAV hardware and software prototype stress testing, cutting test times in half
- Created an ImageJ plugin with Matlab and Java to automate validation calculations of new IR cameras, reducing time investment by 80%

**Engineering Aide**, Summers, July 2009 – July 2013

U.S. Army AMRDEC, Redstone Arsenal, AL

- Performed mechanical vibration research on lab stress testing systems, including a physical driveshaft defect simulator and customized Audio Precision acoustic test equipment
- Used Fourier transform techniques and Matlab to calculate the vibrational frequency content of all rotating parts of two helicopter models, compiling findings into a single reference manual for senior engineers, reducing search times from hours to minutes
- Developed circuits used to mimic helicopter vibration data acquisition units with piezoelectric transducers to modernize monitoring systems
- Participated in helicopter tail rotor field testing for lab simulations comparison

## EDUCATION

**Bachelor of Science in Electrical Engineering**, Double Major in Electrical Engineering and Physics  
August 2014, The University of Alabama, Tuscaloosa, AL  
GPA: 3.972/ 4.0, Summa Cum Laude, University Honors College

Digital signal processing

Analog signal processing

Linear algebra

Python and C++ programming

Electromagnetics

Classical and quantum physics

PCB and analog circuit design

CubeSat microsatellite space system design

Calculus

Differential equations

Digital logic

Microcomputers

Control systems

Summer Glaciology international course in Austria

## Senior Year Design Project

- Team Leader of a seven-member Electrical Engineering hardware and software design team
- Created a custom analog vacuum tube guitar audio amplifier partially developed with PSpice
- Created a Raspberry Pi-driven multi-effects guitar pedal with infinite potential for effect expansion via Python-based audio software development
- Developed an Android software application for remote pedal control via Wi-Fi

- Prioritized system modularity and portability to allow independent subsystem functionality and reduce consumer cost

**COMPUTER SKILLS**

**Programming Skills:** Java, C#, Python, Linux Bash

Adobe Creative Suite

Blender

ImageJ Java-driven image processing tool

Linux

Matlab

Microsoft Office

Reaper Digital Audio Workstation

Unity Game Engine

**CONTINUING EDUCATION**

**Coursera**

Online courses

- Introduction to Game Development – Michigan State University
- Principles of Game Design – Michigan State University
- Business of Games and Entrepreneurship – Michigan State University
- Game Development for Modern Platforms – Michigan State University
- Developing Your Musicianship – Berklee College of Music in Boston
- Introduction to Music Production – Berklee College of Music in Boston
- The Art of Music Production – Berklee College of Music in Boston
- Fundamentals of Audio and Music Engineering: Musical Sound & Electronics – University of Rochester
- Audio Signal Processing for Music Applications – Pompeu Fabra University of Barcelona/Stanford University

**HONORS/ ACTIVITIES**

Eagle Scout rank, Boy Scouts of America

Sophomore Meritorious Award, UA Dept. of ECE

UA Million Dollar Marching Band, 2010-2011

Guitar pedal design and signal processing

Personal music recording, including loudspeaker and microphone comparisons, acoustics simulation, impulse response generation

Medieval and World War II history

President's List, five semesters

Dean's List, three semesters

Music composition

Historical Lego models

Video game development