Martin Phenix Nunlee II, E.I.T.

https://www.linkedin.com/in/phenixnunlee |MPNII.info

Summary of Qualifications

As a multifaceted engineer my skill sets span consumer electronics, acoustics and machine learning. I designed an acoustic lab, a consumer electronics product prototype and AI models. I am skilled in multiple Digital Signal Processing (DSP) methods. I can work on cross functional teams and synergize different disciplines.

Employment

Acoustic Engineer (July '18 -July '23)

An engineer who has extensively characterized systems acoustically, electrically and algorithmically. Developed nonlinear mathematic models of loudspeaker-microphone systems; concluded comparative analysis of competitor's products; performed electric, acoustic and algorithmic testing; ran psycho-acoustic listening test; used testing to verify internal digital signal processing (DSP) modules for proper functionality and to tune DSP algorithms; designed every detail for a sound lab with adjustable acoustics from CAD-through-construction to AV integration and assured regulatory compliance; achieved Amazon Certification for development kits; performed root cause analysis-based debugging in the signal and perceptual domains. Improved automatic speech recognition performance; improved machine learning models, as well as retraining with new datasets; streamlined scripting and testing; conducted documentation review; and, designed and built a working smart speaker prototype with full ASR support.

Graduate Assistantship (May '17- August '18)

Assisting Acoustics Department and refining curriculum. Measuring acoustic performance of various venues. Performing acoustic measurements for noise disputes.

Acoustics Intern (June '17 - August '17)

Assisted in field noise measurements. Wrote product and design guideline specifications. Assisted in development of an acoustic barrier simulator, DSP algorithms, and program code optimization. Measured, analyzed and improved an anechoic chamber.

Continuing Education Auditor (May '16 – May '17)

Investigated the efficacy of insurance continuing education courses. Wrote reports pertaining to activities of continuing education courses. If the course met standards it would be certified for the State of Maryland. This was part-time position, which required extreme independence.

Education/Certifications

Johns Hopkins University, Baltimore, MD   Anticipated Graduation: Dec 2023
MS Electrical Engineering
Relevant Courses: Audio Signal Processing, Machine learning for Signal Processing, and Multidimensional DSP

Peabody Institute of Johns Hopkins University, Baltimore, MD   Graduated: May 2018
MA in Audio Sciences
Concentration: Acoustics
Relevant Courses: Acoustical Measurements, Psychoacoustics, Electroacoustics, and Computer Modeling

Stony Brook University, Stony Brook, NY   Graduated: May 2016
BE in Engineering Science (Multidisciplinary/Materials Engineering)
Minors: Electrical Engineering and Music Technology
Relevant Courses: Audio Engineering, Digital Signal Processing: Implementation, and Digital System Design

Hardware

Sound Level Meter (SLM)	Signal Generators	Multimeter, Logic Analyzers and JTAG	Oscilloscopes
Mixing Console	Various Power Tools for prototyping and manufacturing		Audio Interfaces

Software Packages

MATLAB	SuperCollider	Microsoft 365/Office	GIMP/Photoshop
ImageJ	SOLIDWORKS	AutoCAD	Listen Inc SoundCheck
FFMPEG	POSIX environments (MacOS, Linux, Unix and *BSD)		

Programming

C	Julia	Python	Raku	Perl	Bash scripting	GNU Make

Design and Analysis methods

Machine Learning / AI (PCA, KNN and NN)	Sound lab design	Complex number analysis
Statistical Signal Processing	Wavelet and STFT (Time-Frequency Analysis)	Multidimensional Signal Processing
Impulse Response Capture	Filter Design	Octave band based Acoustic Metrics
Various Statistical Analysis Techniques		