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DAVID RAMSAY

2011~2014, 2010 Bose Corporation

Systems/Electrical Engineer

2 years in Audio Applied Research as a Systems Engineer:

-Design, construct, and tune complex audio prototypes for Home Entertainment applications. Current work focuses on advanced limiting schemes, equalization, speaker spatialization array topologies, and critical listening/evaluation skills.

-Designed, implemented, and tested a microphone array using self-implemented speech intelligibility standards; gained familiarity with audio measurement techniques and real-time processing. *(internship)*

Selected for Highly Competitive PACE rotation program:

-6 months in Noise Reduction Technology's Advanced Development Group. Designed and tested perceptually based noise management algorithms in Matlab, objective-C.

-6 months in Automotive Systems' Electrical Engineering Group. Tested board layouts and worked on embedded/analog circuit design.

2010-2011 Fulbright Researcher

Dublin Institute of Technology

Developed and prototyped a DSP (SHARC) based system to allow handicapped musicians to play guitar using real-time feature extraction and pitch shifting; Matlab and C programming, Microchip/ADI hardware.

2009 General Electric Co.

Co-op at GE Energy

2003-2008 Nat'l Institutes of Health, U.S. Naval Research Lab

Various Internships

Skills and Interests

Advanced signal processing, system design, acoustics, psychoacoustics, audio, web development, and hardware skills. Excellent with Matlab, Python, Javascript, and Altium. Skilled in C and Assembly (μC programming) and Spice/analog circuits.

Guitarist (college Jazz/Classical ensembles), college radio DJ, passion for recording/mixing & audio hardware. Currently in an active band. AES Member, gear-nut, and trained listener.

Current work/interests include distributed low-power sensing, wearables, Supply Chain/Mfg, scalable hardware design, embedded/OS software architecture, neural nets, deep learning, NLP, speech processing, and emotionally aware tech for wellbeing/health.

Education

2014 – Present
PhD Student, [M.S. Awarded 2016]
MIT Media Lab's Responsive Environments
(Sensors for Interactive Environments, IoT Workshop, Supply Chain and Manufacturing Bootcamp, Future of Music, New Enterprises, Nuts and Bolts of Entrepreneurship, Health Behavior Change, Tech Foundations, Affective Computing)

2013
Audio Measurements, Acoustics, and DSP Courses
Bose Corporation (internal)

2012
Professional Certificate in Music Production
Berklee Online School

2005 – 2010
B.S. in Electrical Engineering (conc. Signal Processing)
B.A. in Music (conc. Guitar)
Minor in Biomedical Engineering
Case Western Reserve University

Publications

- *A Novel Fourier Approach to Guitar String Separation.*
- *Base plate mechanics of the barnacle* Balanus amphitrite
- *GroupLoop: A Collaborative, Network-Enabled Audio Feedback Instrumen*
- *Patent Pending for Bose Work*

Awards

Case Trustee's & Alumni Ass'n Scholarships, Nat'l Merit Scholarship, Fulbright Scholarship, Who's Who Student