Frank Elsivan DuBose

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Education

HARVARD UNIVERSITY *Cambridge, MA*
Concentration Candidate in Electrical Engineering, Secondary Degree Candidate in Psychology *May 2017*
Relevant courses: Solid-State Electronics, Physics, Probability, Social Psychology, Personality Psychology
3.32 GPA

UNIVERSIDAD CARLOS III DE MADRID *Madrid, Spain*
Study abroad term; coursework includes industrial automation (PLC, ladder logic experience) *Fall 2015*

ATHENS ACADEMY *Athens, GA*
800 SAT Math, 730 SAT Verbal, 710 SAT Written, 35 ACT *May 2013*

Design and Engineering Projects

OPERATIONAL TRANSCONDUCTANCE AMPLIFIER *Cambridge, MA*
Final Project, ES-154: Electronic Devices and Circuits *April 2017*
Analyzed two-stage folded cascode MOSFET amplifier and sized transistors appropriately

- Characterized standard .18µm NMOS and PMOS transistors in Cadence SPICE
- Predicted amp performance prior to simulating
- Used Cadence characterizations to size all transistors and compared final Cadence simulation to initial analysis

AUDIO SYSTEM – SPEAKERS AND AMPLIFIERS *Cambridge, MA & Madison, GA*
Personal Research & Development Project *May 2016 – September 2016*
Completed design and assembly of ported subwoofer, MTM stereo cabinets, preamp & power amplifiers

- 100W/channel LM3886 amplifiers
- Learned EAGLE and designed amplifier PCBs
- Constructed appropriate linear power supplies
- Modeled & built stereo and sub cabinets, minimizing potential for standing waves
- Debugged all circuitry in electronics lab

GAIT ANALYSIS DEVICE *Cambridge, MA*
Team Member (1 of 4), ES-227: Medical Device Design *January 2016 – May 2016*
Semester-long project prototyping wearable running device to identify injurious running form

- Became topic expert through scientific and market research of issue and solutions
- Contributed to solution design iterations
- Responsible for restructuring data in Matlab
- Personally credited as significant contributor to team cohesion and morale

BICYCLE SAFETY SYSTEM *Cambridge, MA*
Team Member (1 of 3), ES-52: Joy of Electronics *April 2015 – May 2015*
Bicycle circuit aimed at improving safety and featuring numerous mixed-signal components

- Designed clock signal integral to circuit functionality
- Collaborated on analog speedometer
- Designed digital odometer using various ICs
- Assisted in integration of speedometer, odometer, proximity sensor, turn signals

Leadership Experience

EXPRESSIONS DANCE CREW *Cambridge, MA*
Choreographer *September – October 2016, February – March 2017*
Organized 4 hours of weekly rehearsal, choreographed for 6+ hours weekly, arranged show lighting and formations, managed attendance and knowledge levels of team members, arranged social events for team bonding

HARVARD SUMMER SCHOOL *Cambridge, MA*
Proctor (2015, 2016), Assistant Coordinator (2015) *Summer 2015, Summer 2016*
As proctor, met weekly with 30 students, coordinated curfew checks, publicized events. As assistant coordinator, finalized logistics for 25+ trips, trained proctors to lead trips, communicated with venue administrators.

HARVARD CITYSTEP *Cambridge, MA*
Teacher, Music Coordinator *September 2014 - April 2015*
Instructed dance-oriented class twice a week in local middle school. Taught dances and helped students choreograph arrangements to be performed at end-of-year show. Composed and produced music to be used in show through weekly feedback meetings with colleagues and assisted with team bonding in company-wide meetings each Sunday

Work History and Skills

Work History: Benchmark Automation, Georgia Civil, Harvard Summer School, Harvard Dorm Crew

Programming/Software: Experience with C, SQL, Matlab, HTML, CSS, Python, Unity Pro, Eagle, Cadence

Intermediate Spanish: 4 years of high school Spanish, 2 semesters of college Spanish, semester abroad in Spain

Creative Design: Painting, drawing, photography, pottery, 3D design, woodworking

Electronics: Analog and digital signals, soldering, oscilloscopes, power supplies, AC and DC signals