Gladynel M. Saavedra Peña

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EDUCATION

Ph.D. in Electrical Engineering, Massachusetts Institute of Technology — Expected Graduation: July 2022
B.S. in Electrical Engineering, University of Puerto Rico Mayagüez, 2016 — Ranked 1st in class - GPA: 3.88/4.00

RESEARCH EXPERIENCE

Massachusetts Institute of Technology, Cambridge, MA — **October 2016 – present**
Graduate Researcher

- Identification, extraction and processing of digital biomarkers to track cognitive decline in Alzheimer's Disease patients

University of Puerto Rico, Mayagüez Campus, Mayagüez, PR — **January 2013 – December 2015**
Undergraduate Researcher

- Developed an in vivo Acoustic Cardiac Pacing procedure
- Designed a paradigm for interfering with the cardiac rhythm in a frog using Low Intensity Pulsed Ultrasound
- Presented preliminary results at the BMES 2013 Conference

University of Puerto Rico, Mayagüez Campus, Mayagüez, PR — **January 2015 – May 2015**
Senior Design Course

- Designed, tested and implemented a system that detects voluntary eye blinks and produces a click on a computer screen
- Implemented an FIR Digital Matched Filter to differentiate voluntary eye blinks from involuntary eye blinks
- Developed C programming skills on an embedded system in order to apply digital signal processing techniques

Lawrence Livermore National Laboratory, Livermore, CA — **September 2013 – December 2013** & **June 2014 – August 2014**
Undergraduate Researcher

- Designed and built a system for measuring crosstalk between electrode traces in neural prosthetic devices
- Performed frequency analysis on recorded data to analyze noise issues in the crosstalk system
- Designed an algorithm in MATLAB that builds a "crosstalk matrix", facilitating data analysis of the crosstalk system
- Performed Electrochemical Impedance Spectroscopy Testing on neural devices to assess modes of failure
- Worked alongside LLNL researchers on projects from the B.R.A.I.N. initiative

University of California San Diego, San Diego, CA — **June 2012 - August 2012**
Undergraduate Researcher

- Implemented a paradigm for analyzing throat EMG data using an "Epidermal Electronic System"
- Designed a LabVIEW program for throat EMG data acquisition and designed PCB layouts in EAGLE
- Assisted in the electronic assembly of a Pulse Oximeter.

EXTRACURRICULAR ACTIVITIES

Asociación Estudiantil de Apoyo a Comunidades (A.E.A.C.) — **2015**

- Association that seeks to motivate UPRM students to participate in activities with social impact in Puerto Rico
- Activities aim to provide emotional and economic support to marginalized communities

"Chorium Canticus"- University of Puerto Rico Mayagüez School Choir — **2010 – 2014**

Society of Hispanic Professional Engineers (SHPE) — **2011 – 2013**

- Designed three events targeting K-12 students, with the purpose of encouraging them to pursue a STEM field
- Coordinated the "Noche de Ciencias" core program for minority students and their parents
- Developed "STEM-a-Palooza", an event that showcased different engineering fields to pre-college students
- Coordinated the "Regional Science Bowl", a US Department of Energy initiative

HONORS AND AWARDS

Awarded the **MIT Irwin Mark Jacobs and Joan Klein Jacobs Presidential Fellowship** in 2016
Awarded the **MIT University Center for Exemplary Mentoring Sloan Scholarship** in 2016
Awarded the **George Simon Ohm Award** in 2016 for ranking top among her graduating class
Member of invitation only **Golden Key International Honour Society** and **Tau Beta Pi Alpha of Puerto Rico**
Selected as a **RISE 2 BEST Fellow** 2013, only three were chosen in 2013
Lockheed Martin Top Scholar in 2010, 25 freshmen chosen out of the whole school
AXA Achievement Community Scholarship Fellow in 2010
Robert C. Byrd Scholarship Fellow in 2010