# **ELIZABETH M. AYALA-MEDINA**

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#### Profile

• Performance-focused EIT engineer with excellent leadership and writing skills, fast learning and analytical abilities seeking a internship that challenges and utilizes said skills.

Confident and concise fully bilingual (Spanish/English) communicator, able to deliver enthusiastic presentations with clarity to diverse audiences.

Proficient with computer programs: Minitab, Simio, Pro-Engineering, Solid Works, Microsoft Office (Excel, PowerPoint, Word).

#### Education

M.S., Industrial Engineering University of Puerto Rico- Mayagüez Thesis: Product Design Process Fuzzy Front-End: Needs Assessment Perceptions and Human Interactions IDDEAS Research Group: Innovation Design Decisions in Engineering & Applied Systems **Expected Graduation: December 2017** 

B.S., Mechanical Engineering 2012, (Major GPA: 3.51)

### **Graduate/Research Experience**

Graduate Research Assistant • University of Puerto Rico, Mayagüez, PR

January 2016-Present Participating in combined R&D efforts between the Industrial Engineering Department and the • Agriculture Extension Service to design, test, and prototype a teaching tool aiming to assist agriculture extension agents in their duty of teaching local dairy farmers.

Graduate TA • University of Puerto Rico, Mayagüez, PR

Assisted professor with the Real Time Process Control course duties that included conducting lab sessions, preparing laboratory materials, grading assignments, and aiding students in their learning process.

## **Professional Experience**

Nuclear Engineer • NAVSEA, Portsmouth, VA

Developed task group instructions (TGIs) that enabled mechanics or shop experts perform preventive and/or corrective maintenance on the NAVY's nuclear submarines and carriers, taking into consideration radiological and contamination controls, hence providing the safest and most effective guidance for the timely completion of each task.

Mechanical Engineering Patent Examiner • USPTO, Alexandria, VA

- Examined patent applications in the mechanical field of endeavor such as furnaces and dryers, and determined whether the claimed invention met the patentability requirements such as novelty, inventive step, or non-obviousness.
- Maintenance & Eng. COOP Lilly del Caribe, Inc., Guayama, PR January 2011 – December 2011 • Six Sigma Projects:
  - "Energy Consumption Reduction"- Reduced total plant site energy consumption costs by 7%, developing energy efficiency initiatives which included quick fixes and capital projects.
  - "Maintenance Work Execution Process Optimization"- Achieved a productivity improvement equivalent 0 to 3 FTE's by optimizing the work execution process following lean methodology.
  - "55 Initiative Implementation"- Improved process efficiency, enhanced work tasks completion, and 0 provided a safer work environment by reducing waste.
  - "HEPA Filters Certification Optimization"- Performed an audit of all the existing filters, revised existing 0 testing procedures, and generated a DOP (Departmental Operating Procedure) for filter certification.
- Reached a \$200K/yr saving in energy consumption by completing and implementing optimization of the plant's cooling tower operating conditions.

## **Undergraduate Research Experience**

Mechanical Engineering CAPSTONE • AMGEN, Juncos, PR

• Reduced operating costs as well as CO2 emissions by designing feasible steam line that enabled to shut down one of two operating steam systems.

Oil Extraction Research • University of Puerto Rico, Mayagüez, PR

- Worked under the supervision of Dr. Colucci and assisted with experimental duties concerning the development of bio-products using microalgae biomass as feedstock and writing technical reports. Underwater Acoustic Analysis • University of Puerto Rico, Mayagüez, PR January 2012 – May 2012
- Analyzed real-time acoustic scene characterization for security applications using frequency discrimination.

University of Puerto Rico- Mayagüez

February 2014 – July 2015

August 2015-December 2015

January 2012 – May 2012

August 2012 – April 2013

January 2012 – May 2012

# **Related Industry Trainings**

- Predictive & Corrective Maintenance
- Preventive Maintenance & Calibration
- Development of DOP's& SOP's

## Process Safety Management (PSM)/MI

- Current Good Manufacturing Practices (cGMP)
- Corrosion

# Volunteer/Outreach Experience

Facilitator Hogar BAIK • AIESEC, Cartago, Costa Rica

Served with a team of international volunteers as facilitator in an orphanage aiding nuns with the social and academic development of kids 0-8 yrs.

IE Workshop • Pre-engineering Camp, University of Puerto Rico, Mayagüez, PR

Offered two 8-hour workshops about Industrial Engineering to Junior/Senior high school students as part of the pre-engineering summer camp offered by the University. Was in charge of coordinating and organizing along with a group of collaborators, workshops which consisted of lectures, role play, and hands on activities that enabled high school students to "learn by doing," what an IE does.

Volunteer Leader • RealTimePC Tour, University of Puerto Rico, Mayagüez, PR April 2016-Present

Impacted more than 250 students from diverse social and academic backgrounds by visiting several high schools and offering lectures as part of an outreach initiative focused on disseminating what Industrial Engineering is through the spectrum of Process Automation.

Facilitator Community Outreach • HCA, University of Puerto Rico, Mayagüez, PR October 2015

Visited local community (Loiza, PR) along with other university volunteers and tended to two families' needs by painting, repairing, and cleaning their houses.

Youth Leader • Iglesia Pentecostal Nazareno, Carolina, Mayagüez, PR September 2008-July 2012

Lead group of young adults between the ages (18-32) in activities guided towards developing resilience as agents of change in our church community. Helped them develop leadership, communication, public speaking, conflict solving, and resilience skills through numerous soft skill workshops, spiritual retreats, community outreach activities, and service within the church community.

# June 2016 – August 2016

May 2016