Luis Arroyo

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Education

Northeastern University, Boston MA - *December 2023*
Bachelor of Science in Bioengineering and Minor in History
Relevant Courses: Biomedical Imaging, Biomolecular Dynamics/Control, Design of Medical Devices, Design of Biomedical Instrumentation, Bioelectricity, Capstone, Design of Implants, Biomaterials, Biomechanics, Quantitative Physiology, Organic Chemistry I with Lab, Bioengineering Measurement/Experimentation/Statistics, Cornerstone of Engineering I-II
Relevant Activities: Biomedical Engineering Society, American Society of Mechanical Engineers

Work Experience

Abbott Product Performance Engineer (Contract) *June 2024 – December 2024*

- Investigated the cause for complaints related to in-use Heart Failure Devices as part of post market surveillance team
- Performed physical product evaluations and functional testing of returned devices
- Assisted Product Performance Group with organizing Good Faith Effort responses

Abbott Heart Failure R&D Co-op *June 2021 – December 2021*

- Carried out blood compatibility tests for existing heart failure device Heartmate III pump by using TEG and hemolysis data
- Modified designs of prototypes for human factors testing via SolidWorks
- Carried out mechanical testing on upcoming devices using Instron machines

Suono Bio R&D Co-op *June 2022 – December 2022*

- Designed testing fixtures in SolidWorks for device misalignment testing
- Operated intestinal endoscope during animal testing pre- and post- device treatment to identify treatment areas and possible tissue damage
- Ran ex-vivo testing on swine rectal tissue for Ultrasonic drug delivery device with Methylene Blue and dextran solutions to create visual results of drug delivery and device function

Project Experience

Cornerstone of Engineering Project

- Prepared an interactive museum exhibit for children with the goal of teaching them the benefit of using electric and hybrid vehicles in minimizing carbon emissions
- Created 3D CAD model of crank apparatus used to simulate the travel of a vehicle over time

Capstone Engineering Project

- Created a machine learning algorithm in Python determine a patient's risk for a thrombotic event following re-vascularization surgery in patients with Peripheral Artery Disease
- ML algorithm was developed for our sponsor at MGH to incorporate TEG and Baseline data

Skills

- Tools: SolidWorks 3D CAD, AutoCAD, Microsoft Excel, Instron testing, endoscopes, SalesForce
- Programming Languages: MATLAB, C++ Python
- Languages: Fluent in Spanish and English