

Luis Miguel Rodriguez

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Education

Johns Hopkins University

Bachelor of Science, Chemical and Biomolecular Engineering
Minor in Computational Medicine

Baltimore, MD

Expected May, 2018

Professional Experience

Software Developer, Johns Hopkins University Applied Physics Laboratory

Laurel, MD

Aug 2017-Present

- Develop and maintain a big-data storage cloud-based framework used to accumulate neuro TEM and SEM multidimensional image data. The service is estimated to hold 6 petabytes of data.
- Contributing to the tiered architecture of a database by implementing AWS Glacier to store often unused data. This will allow for lower cost and faster rate of operation.
- Automating neuroscience image data analysis processes using machine learning algorithms

Software Development Intern, Johns Hopkins University Applied Physics Laboratory

Laurel, MD

Summer 2017

- Extended a Python 2/3 package that parallelizes common data access workflows to allow for easy data transfer and analyses from different petascale databases through a single remote
- Developed a user web-based interface for partner company using React-JS (front-end) and FlaskApp (back end) to allow for easy data access and data sharing between companies
- Optimized user experience by closely working with end users and conducting tactical user-research

Undergraduate Researcher, Johns Hopkins Microfluidics Laboratory

Baltimore, MD

Nov 2016-Present

- Leading NASA funded research on –meso- and micro-scale fluidic sample acquisition and handling for human exploration in deep space science missions.
- Formulating a method for monitoring microfluidic flows using impedance spectroscopy

Research & Development Intern, Diabetes Research Institute

Miami, FL

Summer 2016

- Co-designed and assembled a high perfusion device to automate scientific data collection using 3D CAD, 3D printing techniques and Python and MATLAB coding languages
- Completed a user-manual and code development of a MATLAB based image processing program used to measure bead displacement caused by heart muscle contractions

Quality Assurance Analyst Co-Op, Integrated Imaging Center (IIC)

Baltimore, MD

Aug 2015-Nov 2016

- Analyzed application, system, and security errors and escalated issues to developers
- Managed satellite facility and provided hands-on microscope training for 25+ new users.

Leadership Experience

President, International Society of Pharmaceutical Engineers (ISPE)

Baltimore, MD

Aug 2017-Present

- Founded the ISPE chapter at Johns Hopkins University
- Lead 7 other officers, and manage 30+ members from 8 different departments

President, Chemically Engineered Car Club of Johns Hopkins University

Baltimore, MD

Nov 2014-Present

- Manage a 20+ member team composed of three independent engineering departments
- Supervise the design and fabrication of a chemically controlled car

Honors & Awards

Provost's Undergraduate Research Award

JHU Chemical Engineering Department, Sarah K. Doshna

Chemical and Biomolecular Engineering Special Service Award

Undergraduate Research Recognition Award

Hispanic Scholarship Fund Scholar

Exxon Mobil STEM Student Scholar

The Miami Herald, S.K. Award in Mathematics

Dean's List

Skills & Interests

Software: Amazon Web Services (S3, DynamoDB, Glacier, Lambda, etc.), ASPEN, CSS, Docker, HTML, JavaScript, MAPLE, MATLAB, Microsoft Office, Python, React-JS, Simulink, Tensorflow, SQL

Modeling and Design: SolidWorks, eDrawings, Arduino, PyMOL, 3DPrinting, Laser Cutting, ZView, ImageLab

Laboratory: PCR, Electrophoresis, Chromatography, Microfabrication, SELEX, Electron Beam Evaporation, SEM, TEM

Languages: Fluent in Spanish and English