**L**uis **R**iera

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**Skills**

**Programming, Data Analysis & Visualization**

Python (Pandas, SciPy, NumPy, TensorFlow), C#, Unity3D, MATLAB, VS Code, mySQL, Matplotlib

**Machine Learning**

Regression, k-means clustering, CNNs, RNNs,

**Computer Vision** Object detection, feature extraction

**Scalable Data Technologies**

MapReduce, Spark

**Database Management** Git, Linux

**Projects**

**Human Joint Analysis**

Developed an application to measure joint velocity using MATLAB and a Kinect. In progress of adding joint angle information.

**Vertical Jump Measurement using a Smartphone**

Self initiated project that measures the vertical jump height of the user using a smartphone shooting 240 fps.

**Experience**

**Private Tutor** 10/2018 - Present

**CollegeWise –** Fanwood, New Jersey

* Tutor high school students in Math, Physics, and Spanish. Also tutor college level Calculus and Physics.
* Teach Calculator workshops and SAT/ACT classes for high school students and students with learning disabilities.

**Research Assistant** 09/2016 to 05/2018

**Rutgers University –** New Brunswick, New Jersey

* Tested a new generation FLIM (microscope) developed by THORLABS. Analyzed lifetime of fluorescent dye, calculated scaling for fields of view, and calibrated fluorescent dye lifetime based on laser power intensity.
* Interfaced hardware (high speed camera, LEDs, DAQ) and LabVIEW to research gum oxygen flow for dental applications.
* Collected ultrasound scans for Convolutional NN and bone surface localization to categorize images for scoliosis diagnosis research. Scan plane identification rate of 93% was obtained.
* Helped develop GUI and code to run automated segmentations of ultrasound scans based on expert human examples. Achieved a surface localization error of 0.42 mm validated against expert segmentation.

**Research Experience for Undergraduates – Research Assistant** 05/2017 to 07/2017

**University of Rochester –** Rochester, New York

* Collected cells for salivary gland cancer research and analyzed cell proliferation via PCR and PicoGreen Quantitation.
* Used linear regression to model the relationship between cell viability and growth factor concentration.

**Education**

**Rutgers University – New Brunswick, NJ** **Class of 2012**

BSMechanical Engineering

**Rutgers University – New Brunswick, NJ** **May 2016 – May 2018**

BSBiomedical Engineering

**Galvanize Data Science Immersive Program – New York City, NY March – June 2020**A 3 month, 700+ hour data science immersive training program covering core data science areas including probability and statistics, databases, regression, supervised and unsupervised machine learning algorithms, NLP, and big data tools like MapReduce and Spark.