Cristopher Delgado

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Data Scientist

I am a Biomedical Engineer specializing in Python data analysis and machine learning. My background includes domain knowledge in biosensor research and development. I excel at applying advanced analytical techniques to biomedical data, driving innovation in biosensor technologies, and contributing to diagnostic research. I am passionate about leveraging my analytical skills and enthusiasm for data science to transition into a data science-focused role. My experience in biomedical engineering equips me with a unique perspective and a robust toolkit for tackling complex data-driven challenges.

TECHNICAL SKILLS

Data Science: Python (NumPy, Pandas, SqLite3), Machine Learning (Scikit-learn, Tensorflow), Data Visualization, Git, Jupyter
Lab Skills: Micropipetting, Pipetting, Ph measurement, Titration, Fluorometry

TECHNICAL PROJECTS

Brain Lesion Classification - Github
Classified MRI image slices into four lesion subclasses to aid in neuropathologist assessments by creating a diagnostic tool

- Developed deep learning convolutional neural network utilizing Tensorflow Keras
- Enhanced learning capability of the model through the use of data augmentation to combat the imbalanced learning dataset
- Merged various datasets to create diverse training images for model training
- The best model achieved 99% specificity and 99% sensitivity with good generalization to unknown data
- Created web application actionable insight using LIME to represent concerning areas of the MRI image slice

Pneumonia Detection - GitHub
Detecting Pneumonia in images of Pediatric patients for future implementation as software into medical devices.

- Developed deep learning neural network utilizing Tensorflow Keras
- Enhanced learning capability of the model through the use of data augmentation to combat the imbalanced learning dataset
- The best model achieved 88% specificity and 94% sensitivity with good generalization to unknown data
- Provided actionable insight into the hypothetical scenario by recommending model implementation into existing software incorporated in medical devices

Heart Disease Prediction - GitHub
Predicted patients with heart disease utilizing certain patient parameters such as age, chest pains, and ECG information

- Generated visualizations of model learning capabilities through the use of receiver operating characteristic curves
- Built models iteratively to evaluate their baselines in comparison to their optimized versions with hyperparameter tuning
- Attempted logistic strategies including logistic regression, random forests, gradient boost, XGBoost, AdaBoost, and K-Nearest Neighbors in order to determine the best-performing logistic classifier
- The best model achieved a specificity of 86% and a sensitivity of 87% after hyperparameter tuning
- Interpreted the model coefficients to determine the most influential factors for heart disease

EXPERIENCE

Orlucent, **Los Gatos, CA** | Intern - Bioinformatics Data Analyst 07/2023 - Present

- Conducted comprehensive data analysis, developed machine learning models, generated detailed reports, and provided actionable insights to support informed decision-making
- Played a key role in data understanding and data-driven solutions by drawing insights from machine learning models and making suggestions and evaluations for lesion assessment purposes
- Develop a deep understanding of startup industry dynamics and challenges while working on a confidential project
- Collaborate with cross-functional teams to meet project objectives

San Jose State University - Yun Wang Lab, **San Jose, CA** | Lab Member 01/2022 - 12/2023

- Collaborated with an interdisciplinary team to design a biosensor prototype with a microfluidic lab on chip technology in conjunction with Quantum Dots resulting in successful trials detection of Botulinum Neurotoxin Serotype A.
- Conducted extensive testing of Quantum Dots for their stability and sensitivity for Botulinum Neurotoxin Detection Serotype A resulting in statistical evidence of the biosensors functionality.
- Performed Reconstitution of Peptide in 10% Dimethyl Sulfoxide & Botulinum Neurotoxin in HEPES buffer required to perform biosensor testing.

EDUCATION

San Jose State University, San Jose, CA | Master of Science in Biomedical Engineering 12/2023
Flatiron School, Online | Immersive Data Science Bootcamp program 05/2024
San Jose State University, San Jose, CA |Bachelor of Science in Biomedical Engineering | GPA: 3.45 05/2023