Max Gebhard

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COMPUTER SKILLS

Programming Languages: Python, LaTeX.
Libraries: Pandas, Numpy, BeautifulSoup.
Data Visualization tools: Matplotlib, Plotly-Dash.
Machine Learning/Algorithms: Scikit-Learn, Tensorflow-Keras.
Deployment: Git, Heroku, Gunicorn.

PROJECTS

Gamma Ray Spectroscopy Senior Project
Research on the energy spectra of gamma radiation emitted from radioactive nuclei. Involved the use of a luminescent crystal scintillator to characterize the nature of gamma radiation from three distinct radioactive isotopes.

Random Forest Classification of Gamma and Hadron Particles
Here there were about 20k instances of two distinct particles from which a predictive model needed to be made to improve research efficiencies. After researching ways of relating the particle features, I achieved a 90+% accuracy score on my primary model.

Regression Analyzer for S&P 500 Securities
This is an application I developed for analyzing company stocks on the S&P 500. I used a linear regression to assess the volatility and risk adjusted returns of these companies with respect the overarching index. `https://jensens-app.herokuapp.com`

CNN Classifier of Semi-Conductor Wafers
From a dataset of semi-conductor wafers, I developed several models to classify new wafer instances into their appropriate fault type. The architecture employed was a 14 layer convolutional neural net, which achieved about 88% accuracy with minimal overtraining.

See Github for all projects: `https://github.com/mjg338`

WORK EXPERIENCE

Center Stage Productions Summer 2019
Fairlawn, NJ

Exposure to RhinoCam. Projects typically involved producing custom objects for exhibits using a process of 3D rendering and machine tool pathing within RhinoCam, followed by materials selection and then oversight on in-shop machine execution of the designs.

EDUCATION

Bachelor of Science, Applied Physics
Rutgers University, New Brunswick, NJ, 2020
Concentration: Nuclear Radiation

Metis Data Science Bootcamp
New York, New York, 2020