Alaguvalliappan Thiagarajan

3527 SW 20th Ave, Gainseville, Fl 32607 | 954-901-0379 | athiagarajan@ufl.edu

Education

University of Florida **September 2021 – May 2023**

Bachelor of Science in Data Science and Mathematics

Major GPA: 4.00/4.00

Relevant Coursework: Calculus 3 Honors(A), Linear Algebra(A), Linear Algebra for Data Science(IP), Mathematical Modeling for Biology(IP), Advanced Applications of Data Science in Physics(A), Foundations of Computer Science(A), Probability and Statistics 1(A)

Skills

Techincal:

- **Python**, Libraries: (**TensorFlow, ODEInt, Keras, Scikit-Learn, Pandas, Numpy,** Statsmodels, csv, json, math, OpenCV), C++, Java, **R, Microsoft Excel, MATLAB,** Maple, SQL

Experience

Florida Atlantic University | Boca Raton, FL **May 2020 – December 2020**

Learning Assistant

- Facilitated 2 professors for 10 hours each week in teaching Calculus 2 to 60 students over the course of 7 months
- Held office hours to improve student's understanding of the material

Research

Portfolio Investment Management Model (WIP) | Boca Raton, FL **August 2020 – May 2021**

Python/Scikit-Learn/ Statsmodels

- This is an AI/ML project to recreate and expand off of a portfolio investment management research paper which utilizes classification ensembles to reduce market noise before applying a model for portfolio redistribution to maximize returns in both long and short positions.
- Completed the feature selection process on a dataset of 3 million entries and 417 features utilizing a combination of correlation clustering, blockwise selection, p-value selection, xgboost feature importances, and principal component analysis.
- Started Portfolio Construction

Personal Projects

Compressive Sensing-Neural Network **December 2021 – Present**

Python/Keras/Tensorflow/Tflearn/Numpy

- Applied compressive sensing to a CNN and to a LSTM to reduce image file size.
- For the CNN, after compressing the image by 50 percent, I cut the runtime by 33 percent for only a 3 percent loss in accuracy.
- For the LSTM, after compressing the image by 70 percent, I cut the runtime by 40 percent and increased the accuracy of the model by 4 percent.

Awards

Outstanding Award-SCUDEM Math Modeling Contest **January 2019 – May 2020**

Python, OdeInt, Matplotlib,Numpy

- SCUDEM — SIMIODE Challenge Using Differential Equations Modeling is a 3-student team modeling challenge that runs over three weeks culminating in a 10 minute video that will be judged to be outstanding, meritorious, or successful.
- https://news.clas.ufl.edu/students-win-top-honors-in-math-modeling-challenge