Noel Elias

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EDUCATION

THE UNIVERSITY OF TEXAS AT AUSTIN

BS in Computer Science
BS in Mathematics
Aug 2021 - 2025 | Austin, TX
Cum. GPA: NA
Major GPA: NA

LINKS

Github:// noele2
LinkedIn:// noel-elias
Portfolio:// noele2.github.io

COURSEWORK

UNDERGRADUATE

Data Structures
Linear Algebra
Honors Vector Calculus
Discrete Mathematics

CERTIFICATIONS

Deep Learning Sequence
Machine Learning
Cryptography I
MATLAB for Quantitative Analytics

SKILLS

PROGRAMMING

Over 5000 lines:
Python • Java • MATLAB
Over 1000 lines:
C/C++ • Javascript • SQL • HTML/CSS
Familiar:
C# • R

TOOLS/FRAMEWORKS

AWS • Scikit • NLTK • TensorFlow • Unity • Git • Andriod Studio

AWARDS

- Finalist - Texas Science & Engineering Fair
- 1st Place - Austin Energy Science Fair Competition - May 2020
- President's Volunteer Service Award - 2020

EXPERIENCE

THINKERY | Software Engineering Intern

Nov 2018 - August 2021| Austin, TX

- Led the development and production of an AR app implementing MIT Media labs computational thinking strategies to teach students programming alongside Thinkery curriculum specialists team.
- Implemented Vuforia Augmented Reality SDK for feature tracking and detection, Unity Scripting APIs in C# and JavaScript for 3D animations, and Android Studio for the building the app framework.

UT - RESEARCH LAB | Undergraduate Research Intern

Jan 2018 - August 2020 | Austin, TX

- Worked on various research projects under Dr. Andrew Ellington developing diagnostics tools to detect fecal particles in water and HIV levels in infants.
- Used SciPy and scikit-learn libraries to conduct interpolations, multidimensional image processing, and classifications on amplification results.
- Built automated web scrapping tool in Java to run genomic sequencing on viable primers sets for LAMP amplification research that were published and presented at the international iGEM conference.

PROJECTS

TEXAS COVID-19 WEB APP | Deep Learning, Web Development

- Constructed dynamic web app to create projections for COVID-19 cases, tests, and active infections per Texas county.
- Created, tested, and validated LSTM neural networks, DBSCAN unsupervised clustering algorithms, and regression algorithms to create models to predict the spread of COVID-19 using a variety of contributing factors with a 92% accuracy.
- Identified major sources of error, and optimized model to increase performance through hyper parameter tuning, dropout, and pruning techniques that reduced loss.
- Devised automated pipeline with cron and AWS back end and Dash front end for Heroku web app.
- **Used:** AWS (EC2, S3 storage, and Elastic Beanstalk), TensorFlow, scikit-learn, Heroku, Dash, cron

KAGGLE - CONTRIBUTOR | Machine Learning, Data Science

- Modeled large data sets in global competitions using accurate machine learning models to solve problems like natural language processing, water toxicity, house pricing, etc. placing top 0.05% globally.
- Completed extensive coursework and training in data visualization, pandas, feature engineering, advanced SQL, NLP, and Game AI & Reinforcement Learning.
- **Used:** TensorFlow, SciKit-learn (Support Vector Machines, KMeans), Pandas, SQL, Seaborn, Jupyter Notebooks, Numpy, Matplotlib

PUBLICATIONS

[1] iGEM Interlab Study Contributors. Robust estimation of bacterial cell count from optical density. *Nature of Communications*.