

# Noel Elias

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## EDUCATION

### THE UNIVERSITY OF TEXAS AT AUSTIN

BS IN COMPUTER SCIENCE

BS IN MATHEMATICS

May 2025 | Austin, TX

## SKILLS

### PROGRAMMING

Over 5000 lines:

Python • Java • C/C++

Over 1000 lines:

MATLAB • Javascript • SQL • HTML/CSS

Familiar:

C# • R

### TOOLS/FRAMEWORKS

AWS • Scikit • OpenCV • TensorFlow

- Unity • Git • Android Studio

## LINKS

Github:// [noele2](#)

LinkedIn:// [noel-elias](#)

Portfolio:// [noele2.github.io](#)

Google Scholar:// [profile](#)

## COURSEWORK

### UNDERGRADUATE

Data Structures

Linear Algebra

Honors Vector Calculus

Discrete Mathematics

Computer Architecture

Number Theory

Operating Systems

Algebraic Structures

### CERTIFICATIONS

Deep Learning Sequence

Machine Learning

Cryptography I

MATLAB for Quantitative Analytics

Computer Security

## AWARDS

- 50/300000 globally - Kaggle Housing

Prices ML Contest

- Finalist - TXSEF - 2020

- 1st Place - Austin Energy Science Fair Competition - May 2020

- Bronze Medal - International Genetically Engineered Machine Competition - 2018

## EXPERIENCE

### APPLIED RESEARCH LABRATORIES | MACHINE LEARNING INTERN

Jan 2022 - Present | Austin, TX

- Built and deployed machine learning pipelines for various passive sonar based binary, one-class, and siamese data distributions.
- Developed novel denoising algorithm for extracting spectrographic signatures from noisy audio signal data utilizing Score-CAM analysis.
- Working on publishing papers based on research

### 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.
- 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.

### ELLINGTON RESEARCH LAB | UNDERGRADUATE RESEARCH INTERN

Jan 2018 - August 2020 | Austin, TX

- Worked on various research projects under **Dr. Andrew Ellington** using SciPy and scikit-learn libraries to conduct interpolations, multidimensional image processing, and amplification 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

### MULTI-THREADED WEB SERVER | CONCURRENCY, SERVER

#### OPTIMIZATION

- Built multi-threaded HTTP Web Server in C and Rust by safely implementing thread pools to reduce response time with concurrency.
- Implemented asynchronous optimized HTTP requests and evaluated scaling performance by deploying unit tests in testing pipeline
- **Used:** Rust & C, POSIX Threads, C Socket-Lib, Rust Thread & TCP API

### TEXAS COVID-19 WEB APP | DEEP LEARNING, WEB DEVELOPMENT

- 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.
- **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.
- **Used:** TensorFlow, SciKit-learn (Support Vector Machines, KMeans), Pandas, SQL, Seaborn, Jupyter Notebooks, Numpy, Matplotlib