Tariq Abdul-Quddoos
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EDUCATION

Prairie View A&M University — **Prairie View, TX**
Master's in Electrical Engineering — **August 2021 – Present**
GPA: 4.0

St. Cloud State University — **St. Cloud, MN**
Bachelors in Electrical Engineering — **August 2016 – May 2021**

Work & Research Experience

Graduate Research Assistant — **Prairie View, TX**
Prairie View A&M University – CREDIT Center — **August 2021 – Present**

- Named Entity Recognition(NER) modeling of text using deep learning methods
  - Review and implement literature and repositories around language modeling and named entity recognition task
  - Participate in 2022 National NLP Clinical Challenges(in-progress)
    - Task Link: Track 1 | National NLP Clinical Challenges (n2c2) (harvard.edu)

Electrical Engineering Co-Op — **Chanhassen, MN**
Emerson Automation Solution – Nuclear & Sub-Sea Group — **January 2021 – August 2021**

- Investigate product cost reduction possibilities from circuit level perspective
  - Identify circuit components meeting functional product standards from commercial distributers & test component functionality with respect to product requirements
- Develop software package for product sensor investigation
  - Graphical user interface made using C# in visual studio to change test parameters
  - Developed interface drivers for measurement and test units using GPIB communication interface
  - Research & apply regression models for sensor output to characterize sensor performance with respect to various input and environmental factors, models made using python Scikit Learn library
- Track and process data from component reliability testing
  - Develop plan & fixturing for batch circuit component reliability testing
  - Develop software package for processing and visualizing data using python programing language

Undergraduate Research Assistant — **St. Cloud, MN**
St. Cloud State University — **August 2019 - January 2021**

- Investigate Lossy Effects of Tissue on short distance radio frequency signals
  - Conduct literature review on basics of lossy effects of tissue on RF signal & mathematical models of electrical properties of human tissue
  - Develop text fixturing & data acquisition of features relating to signal performance such as tissue insertion loss, RX/TX coil insertion loss, & coil impedance.

Test Lab Intern **Plymouth, MN**
Nonin Medical **May 2019 – August 2019**

- Investigate & test pulse oximetry related products
    - Evaluate pulse oximetry product LED performance with respect to current pulse and amount of current.
    - Investigate noise due to ambient light & movement in pulse oximetry product

Skills

Programming Languages

- C, C++, C#, MATLAB
- Python - Seaborn, Tensorflow, NLTK, matplotlib, pandas, numpy

Machine Learning

- Natural Language Processing:
    - Language Models: N-Gram, BERT, Neural(LSTM, feed forward)
    - Word Embeddings Models: GloVe, Wordpiece, Word2Vec
    - Named Entity Recognition: Conditional Random Field, Hidden Markov Model, BERT
    - Text Classification: Naive Bayes(Multinomial & Bernoulli), Centroid Classifier, K-Nearest Neighbor
- Computer Vision: Convolutional Neural Networks
- Projects: Convolutional Neural Network Ensemble for image classification, Polynomial Regression Model for temperature sensitive pressure sensor, Tweet Toxicity Rating Model with GloVe embeddings

Misc.

- Analog & Digital Signal Processing
- Linear Algebra
- Bayesian Statistics
- Power Systems
- Embedded Systems
- Projects: Desktop Oscilloscope, Realtime Digital Filter, Solar Powered Li-Po Charger & Monitor, Photo AM Transmitter & Receiver

Leadership & Volunteering

Mentor/Instructor **Minneapolis, MN**
Minnesota STEM Partnership **June 2021 – July 2021**

- Took students through six weeks of instruction on the theory & design of a solar powered lithium-polymer charger & battery monitoring system.

Council of African American Students – Exec Board Member **St. Cloud, MN**
St. Cloud State University **August 2017 –May 2020**

Formula SAE Race Car Team – Electrical Engineering Team Member **St. Cloud, MN**
St. Cloud State University **August 2016 – May 2018**