Matthew Ciolino

Machine Learning Developer - Huntsville, AL 35806 - (908) 967-0559 - mrciolino@alum.lehigh.edu

EXPERIENCE

PeopleTec
Machine Learning Developer, June 2019 – Present
- Assessed the effectiveness and accuracy of new data sources and industry-leading learning techniques
- Developed custom data models and algorithms to apply to data sets
- Used predictive modeling to increase and optimize operational outcomes
- Developed what-if models with A/B testing framework and tested model quality

PeopleTec
Junior Engineer (C++ Developer), Nov 2018 – June 2019
- Developed fast-running, physics-based models and algorithms for predicting damage, response, and debris of threat systems due to impact from defensive weapons
- Designed, built and maintained efficient C++ and Fortran code for Parametric Endo/Exo Atmospheric Lethality Simulation (PEELS), a Missile Defense Agency contract with the Department of Defense
- Performed analysis and data reduction in Python to validate model performance on Windows and Linux

Lehigh University
Research Assistant, Aug 2017 – Dec 2017
- Modeled and constructed custom 750kV co-axial electric motors and controls system for a thrust vectoring counter-rotating propeller system that could be launched from a 70mm mortar round
- Modified open-source software in C++ to implement a custom control system that allowed servos full manual control
- Tested/Calibrated the electromechanical system in flight and on testbench to document performance characteristics

Cosentini, A Tetra Tech Company
HVAC Mechanical Design Engineer Internship, May 2017 – Aug 2017
- Designed heating and cooling solutions in AutoCAD/Revit for a $279 million 775k sf / 490-unit residential complex in Brooklyn and a $300 million 350k sf footprint office headquarters in New Jersey
- Revised construction documentation to comply with customer requirements and ASHRAE design guidelines

LEADERSHIP

Soterra: Women's Safety XPRIZE - https://www.soterrasafety.org/ - *Patent Pending*
Design Lead, Jan 2017 – May 2018
- Led design of 1st mesh networking (IOT) commercial electronic device to enter women's safety device industry
- Won $50,000 as a top 5 finalist among industry leaders during the XPRIZE summit in Mumbai, India
- Directed creation of mechanical (SolidWorks) and electrical (PCB) documentation for production of our device
- Programmed peripheral components and sensors (GPS, Button, LED) in C

PROJECTS

Kaggle Competitions - https://github.com/mrciolino/
Self, Aug 2018 – Present
- Competed in various machine learning competitions through data cleaning, feature creation, modeling and validation
- Implemented Wikipedia 60-Day Traffic Time Series Forecaster using Recurrent Neural Network with SMAPE of 97
- Constructed well-documented GitHub with notebooks detailing and comparing custom statistical/AI analysis

Novel Job Tag Classifier - https://github.com/mrciolino/Job-Tag-Classifier
Self, Jan 2019 – June 2019
- Developed Deep Learning classifier to predict job tags associated with a job description/title for a job search algorithm
- Used Natural Language Processing (NLP), a Convolutional Autoencoder (CAE), and a Deep Neural Network (DNN) to convert scraped internet data into job tags at 86% validation accuracy
- Performed data collection into a SQL Database, feature engineering using Pandas/NLTK, and model development and validation using Keras and sklearn

Dresser-Rand: Capstone Project
Member: Product Design Engineer, May 2017 – Aug 2018

- Designed a probe positioning tool for setting aerodynamics probes in a $5 million compressor made by Dresser-Rand
- Prototyped using SolidWorks to create a 60:1 planetary gear set and enclosure for angle setting clamps
- Coordinated weekly team meetings with Dresser-Rand's Engineers to follow a prototyping design schedule to effectively manufacture our device to company needs

Lehigh Hyperloop - https://www.lehigh.edu/~inhyper/
Pod Build Team, Aug 2016 – May 2017
- Fabricated 3000lb pod with 30 other students for the Hyperloop Pod Competition sponsored by Tesla in CA
- Researched and constructed a rotating Halbach array that would allow the 10-foot long pod to levitate
- Assembled 240V battery pack modules to run the pod's compressor and levitation system

EDUCATION

Online Courses
Udacity (2018) - *Intro to Machine Learning & Intro to Artificial Intelligence*
Edx (2019) - *IBM's Deep Learning Program: DL with Keras, Pytorch, & Tensorflow*

Lehigh University*, Bethlehem, PA*
Bachelor of Science in Mechanical Engineering and minors in Aerospace Engineering and Philosophy, May 2018
- GPA: 3.03 / 4.00

ADDITIONAL SKILLS

Skills Mechanical: SolidWorks, MATLAB, C++, Python, ANSYS, AutoCAD, LABVIEW, Technical Writing
Skills Programming : Python (Keras, Pandas, Statsmodels), C++, SQL, Version Control, Windows, Linux
Relevant Coursework: Spacecraft Design, Aircraft Design, Aerodynamics, Manufacturing, Vibrations, Data Analytics
Groups: American Society of Mechanical Engineers, Aerospace Club, Huntsville Machine Learning Group