NealDawson-Elli

Chemical Engineer - Data Scientist - Software Engineer

Address
546 NE Ravenna Blvd
Apt 303
Seattle, WA 98115

Telephone
1 (607) 857-9791

Mail
nealde@uw.edu

Web & Git
nealde.github.io
github.com/nealde

Interest
Data Analysis
Modeling
Machine Learning
Software Carpentry
Clean Energy

Proficient In
Python

Familiar With
SQL
Matlab
C / C++
R
Java
Excel VBA
Julia
Fortran

Frameworks
AWS ★★☆☆☆
GCP ★★★☆☆
Keras ★★★★★
Sci-Kit ★★★★★
Git ★★★★☆

Availability
Expected:
Summer 2019

Education

2015 - 2019 **Ph.D in Chem. Engineering (Expected)** Univ. of Washington, Seattle, WA
with Option in Advanced Data Science
Improving the performance of physics-based Li-ion battery models using data science techniques in control applications.
Principle Investigator: Prof. Venkat R. Subramanian.
GPA: 3.64

2010 - 2015 **B.S. in Chemical Engineering** Rochester Inst. of Tech., Rochester, NY
Minor in Musical Performance
Fluid Mechanics, Thermodynamics, Reaction Engineering, System Dynamics and Control, Material Science,
GPA: 3.58

Experience

08/17 - 09/17 **Software Engineer** Faraday Technologies, Dayton, OH
Designed and developed Python package for analysis of electropolishing of metal surfaces. Implemented a neural network for process selection.

01/14 - 06/15 **Technician** OLEDWorks, Rochester, NY
Development of software for improved data management in Excel VBA, operation of a chemical vapor deposition chamber for OLED device creation.

03/13 - 08/13 **Technician** Empire Precision Plastics, Rochester, NY
Database overhaul in Filemaker, creation of searchable databases in Excel, management of injection molding and ultrasonic welding processes.

Projects

10/2018 **What Can Electrochemistry Learn from Chess?** Publication
Analyzed and documented the creation of a problem-specific optimizer based on DeepChess and applied to lithium-ion battery models.

10/2018 **Battery.py - A Framework for Performant Battery Models** Software
Created an open-source Python package for fitting Li-ion battery models.

05/2018 **WYNS - An Interactive Map of Twitter Sentiment Analysis** Project
Used bi-directional RNNs to classify twitter sentiment related to climate change, hosted on GPC interactively using Dash.

03/2018 **DeepQL - A Language for Querying a Deep Neural Network** Project
Created a SQL-like syntax for querying a DNN. github.com/nealde/DeepQL

10/2017 **DeepChess - A Re-Implementation of DeepChess in Keras** Project
Re-implemented a Deep NN-based chess engine and minimax algorithm.

07/2017 **Data Science Approaches for Electrochemical Engineers** Publication
Analyzed how system knowledge can be leveraged in data science problems.