TRENTON **MCKINNEY**

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Email · **LinkedIn Profile** · **GitHub** · **Stack Overflow** · **Personal**

With a B.S. Electrical Engineering and 7+ years of engineering testing and engineering data analysis experience, I bring a technical background of curiosity, critical thinking and problem solving to provide timely and effective solutions using python to automate data collection, analysis and visualization. That same engineering skill set, and acumen is also applied to staying abreast of the ever-evolving data science and analytics ecosystem. I enjoy solving problems, providing data driven insight and continually expanding my knowledge. Data are only as valuable as the insights gleaned from analysis and I excel at using the python data science software ecosystem and tools such as Excel and Tableau for data analysis, prediction, visualization and storytelling.

SKILLS

- Data Analysis
- Python · R
- OOP – Object Oriented Programming
- Jupyter Lab – Pandas · Matplotlib · NumPy
- Data Visualization – Matplotlib · Bokeh · Tableau
- JetBrains PyCharm
- Machine Learning – scikit-learn

- Excel – Power Query · Power Pivot · DAX
- SQL · mySQL · ETL
- Statistics · Linear Algebra · Calculus · Differential Equations
- Data Munging - Python
- Microsoft Office
- GitHub

EDUCATION

BACHELOR OF SCIENCE ELECTRICAL ENGINEERING, PORTLAND STATE UNIVERSITY

NOVEMBER 2018 · UDACITY
DATA ANALYST NANODEGREE – STATISTICS, PYTHON, JUPYTER, MACHINE LEARNING, TABLEAU, R, SQL, DATA ANALYSIS, DATA WRANGLING

OCTOBER 2018 · COURSERA – UC SAN DIEGO
INTODUCTION TO BIG DATA (HADOOP)

JUNE 2018 · DATACAMP
PYTHON DATA SCIENCE TOOLBOX (PART 1 & 2) · INTRO TO PYTHON FOR DATA SCIENCE · INTERMEDIATE PYTHON FOR DATA SCIENCE · IMPORTING DATA IN PYTHON (PART 1 & 2)

APRIL 2018 · COURSERA
MACHINE LEARNING

JULY 2017 · EDX
DAT206X: ANALYZING AND VISUALIZING DATA WITH EXCEL

SEP - DEC 2015 · COURSERA
USING DATABASES WITH PYTHON · USING PYTHON TO ACCESS WEB DATA · PROGRAMMING FOR EVERYBODY (GETTING STARTED WITH PYTHON) · PYTHON DATA STRUCTURES

PROJECTS

MACHINE LEARNING

- Use Supervised Learning to predict Persons of Interest from the Enron Dataset
- Python 3.6.7, Pandas, Numpy, MatPlotLib, SciKitLearn – Naïve-Bayes Gaussian
- Git Repository

STACK OVERFLOW SOLUTIONS

- Provide solutions to questions posted on Stack Overflow
- Python 3.6, Pandas, Matplotlib, Jupyter Lab
- Git Repository

TABLEAU - DATA VISUALIZATION

- This data visualization tells a story and highlights trends and patterns in the data set. The work reflects the theory and practice of data visualization, such as visual encodings, design principles, and effective communication.
- Git Repository, Tableau Dashboard

R - DATA EXPLORATION & VISUALIZATION

- Prosper allows people to invest in each other in a way that is financially and socially rewarding. On Prosper, borrowers list loan requests between $2,000 and $35,000 and individual investors invest as little as $25 in each loan listing they select. Prosper handles the servicing of the loan on behalf of the matched borrowers and investors.
- R, ggplot2
- Project Write-Up, Git Repository

EXCEL AUTOMATION

- This project is a demonstration of using Python to automate Excel tasks, such as creating pivot tables for recurrent reports
- Excel, Python
- Git Repository

WRANGEL OPENSTREETMAP DATA

- This is an ETL project. Use data munging techniques, such as assessing the quality of the data for validity, accuracy, completeness, consistency and uniformity, to clean the OpenStreetMap data for Portland, OR. Finally, create a SQL database with the cleaned data.
- Python, SQL
- Project Write-Up, Git Repository

INVESTIGATE A DATASET

- Use various methods to explore and visualize the dataset to determine which factors contribute to passenger survival rate.
- Python, MatPlotLib, Numpy, Jupyter Lab
- Git Repository

STATISTICS – STROOP EFFECT REACTION TIME ANALYSIS

- Demonstrate a statistically significant difference in the completion time of two tasks.
- Excel
- Git Repository

EXPERIENCE

2017/04 – 2018/10
HARDWARE ENGINEER, INTEL

- 18 Month contract complete – Reference from manager on LinkedIn
- Produce test plans for the thorough validation of Ethernet network cards.
- Test network cards with a combination of custom automation and bench testing.
- Implement automation to the data analysis process with python and Excel.
- Summarize test results with an electrical validation report.
- Wrote and implemented new waveform post-processing automation with python, Jupyter Lab and Pandas to:
  - ► Organize data generated by testing to ascertain the completeness of test coverage.
  - ► Produce waveforms and waveform analysis from the raw waveform test points.
  - ► One test of 3 DUTs produces 1.7B+ rows of data which is used to generate 1500+ waveform figures.
  - ► Figures are either individual waveforms or groups of waveforms
  - ► Individual waveform measurement figures are each divided into four subplots showing:
    - (1) full waveform
    - (2) rising edge (tested for monotonicity)
    - (3) ringing
    - (4) steady state. Out of spec data are masked red.
  - ► Combined figures may include:
    - (1) startup of all test points plotted to verify sequencing
    - (2) test points and slew rate and
    - (3) DUT and test point to name a few combinations.

2014/04 – 2014/11
TEST ENGINEER, OXFORD GLOBAL RESOURCES · EVEREST CONSULTANTS, INC.

- Automated functional verification of the Rohde & Schwarz CMW500 with python.
- Functional verification of HIDs, PIR sensors, cameras and NFC devices within Surface Hub
- Increase hardware and software test throughput by automation with Python.

2013/11 – 2014/04
RF TEST ENGINEER, SUMMIT SEMICONDUCTOR

- Contract - Reference from manager on LinkedIn
- Implemented automation with python scripting, which increased hardware test throughput of wireless transmitter (RF) gain control characterization. Increased data allowed for the modeling of the device with linear regression.
- Data analysis with Python and Excel – Excel functions were automated with Python

2012/10 – 2013/06
SIGNAL INTEGRITY ENGINEER, INTEL

- Contract - Reference from manager on LinkedIn
- Implemented new signal integrity test automation with python to control and synchronize thermal controller, noise generator, oscilloscope, 72 port RF switch, voltage controller, BERT scope and device under test to characterize Intel CPU
- Reduced a 20-minute manual test process to 3 minutes.
- Increase to the stability of the automation software, was able to reduce the BER testing by up to 4 days.
- Increase hardware test throughput by automation with Python.