

TRENTON MCKINNEY

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[Email](#) · [LinkedIn Profile](#) · [Stack Overflow](#) · [CodeMentor](#) · [Projects & Certificates](#)

References: See LinkedIn Recommendations

With a B.S. Electrical Engineering and 10+ years of electrical hardware testing, hardware test automation and data analytics experience, I bring a quantitative background of curiosity, critical thinking and problem solving to provide timely and effective solutions using python to automate data collection, wrangling, analysis and visualization. That same engineering mindset, 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 for data analysis, prediction, visualization, and storytelling.

SKILLS

- Data Analysis
- Python 3.6+
- OOP – Object Oriented Programming
- Jupyter Lab · Pandas · Matplotlib · NumPy
- Data Visualization: Matplotlib · Bokeh · Tableau
- JetBrains PyCharm
- Machine Learning: scikit-learn · numpy
- Excel: Power Query · Power Pivot · DAX
- SQL · MySQL · ETL
- Statistics · Linear Algebra · Calculus · Differential Equations
- Data Munging / Cleaning
- Microsoft Office
- GitHub

EDUCATION

BACHELOR OF SCIENCE ELECTRICAL ENGINEERING, PORTLAND STATE UNIVERSITY

2018 - CURRENT · DATA CAMP

Data Scientist with Python: Python, Pandas, Matplotlib, SQL, Jupyter Lab, Visualization, SQL, Statistics

NOV 2018 · UDACITY

Data analyst nanodegree: Python, Statistics, Machine Learning, SQL, Analytics

OCT 2018 · COURSERA – UC SAN DIEGO

Introduction to Big Data (Hadoop)

APR 2018 · COURSERA

Machine Learning

JUL 2017 · EDX

DAT206x: Analyzing and Visualizing Data with Excel

SEP - DEC 2015 · COURSERA

Using Databases with Python · Using Python to Access Web Data · Programming 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 3.8, Pandas, Matplotlib, Jupyter Lab, Seaborn, Numpy
- [Answers](#)

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

- Using Python to automate Excel tasks, such as creating pivot tables for recurrent reports
- Excel, Python
- [Git Repository](#)

WRANGLE 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

2021-02 – PRESENT

DATA SCIENTIST, MCKINNEY TECH GROUP, LLC

- Principal
- Primary technical consultant for python data science, and analytics projects.

2021-01 – PRESENT

FREELANCE, CODEMENTOR.IO

- Provide on demand mentoring, freelance, code review or long-term coding services.
- Codementor.io [profile](#)

2019-10 – PRESENT

SITE CONTRIBUTOR, STACK OVERFLOW

- Provide solutions on Stack Overflow as a contributor, not an employee.
- Data Science / Analytics, Pandas, Python, Matplotlib, Seaborn
- Stack Overflow [profile](#)

2021/04 – 2021/06

DATA ANALYST, INTEL

- Collect data from various sources, clean the data, post the data to a database.
 - Python - pandas, sqlalchemy
 - PostgreSQL
 - Web Scraping
 - Jupyter Lab Notebooks
- Contract: Aditi

2019/02 – 2019/07

PROJECT DATA ANALYST, INTEL

- Contract
- Parse text information from multiple XML files into a single JSON file. Flatten JSON file with pandas and join it with associated data from a database.
- Deploy a Flask application on Linux to serve the aggregated data and write python methods to make it searchable by various parameters.
- NLP ([TF-IDF](#)) was used to match the unstructured text contents of various fields.
- Code was tested in Jupyter Notebooks then converted to standard python files.
- Python
 - Data Analytics
 - MySQL & PostgreSQL
 - Call APIs for data acquisition
 - Natural Language Processing (NLP)
 - Jupyter Lab Notebooks
 - Visualizations – Matplotlib, Bokeh
 - Unstructured Data Cleaning – Text
 - Automation of data cleaning & manual processes

2017/04 – 2018/10

HARDWARE ENGINEER, INTEL

- 18 Month contract– 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.

2014/08 – 2014/11

TEST ENGINEER, OXFORD GLOBAL RESOURCES

- Contract at Perceptive Pixel by Microsoft
- Functional verification of HIDs, PIR sensors, cameras, and NFC devices within Perceptive Pixel (aka Surface Hub).
- Test plan/procedures development & results presentation
- Engineering Data Analysis
- Microsoft Office
- Testing

2014/04 – 2014/06

TEST ENGINEER, EVEREST CONSULTANTS, INC.

- Automated functional verification of the Rohde & Schwarz CMW500 with python.
- Engineering Data Analysis
- Regression Testing
- Microsoft Office
- Statistics
- Python
- Testing

2013/11 – 2014/03


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

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- 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.