TRENTON MCKINNEY

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Email · LinkedIn Profile · Stack Overflow · CodeMentor · Projects / Notebooks · Certifications
References: See Recommendations on LinkedIn

With a B.S. Electrical Engineering and 11+ 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. Fueled by an engineering mindset, I actively keep pace with the ever-evolving data science and analytics ecosystem. I enjoy solving problems, providing data driven insight and continually expanding my knowledge. In summary, I offer a unique blend of technical expertise, problem-solving prowess, and a passion for expanding my knowledge base. My proficiency in leveraging the Python data science software ecosystem allows me to deliver exceptional results in data analysis, visualization, and storytelling.

SKILLS

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

EDUCATION

BACHELOR OF SCIENCE ELECTRICAL ENGINEERING, PORTLAND STATE UNIVERSITY

2018 - CURRENT • DATACAMP
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

EXPERIENCE

2022-01 – 2022-09

DATA ANALYST III, SPACE TELESCOPE SCIENCE INSTITUE

- Use Python to ingest Hubble observation data into new SQL tables for Hubble Advanced Products (HAP).
- Create Jupyter Notebooks for Hubble telescope observation mission data.
    - STSCI Notebooks I worked on (not HSC_TAP)
- Contract: Latitude Inc – Complete

2021-02 – PRESENT

DATA SCIENTIST, MCKINNEY TECH GROUP, LLC

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

2021-01 – 2022-01

FREELANCE, CODEMENTOR.IO

- Provide on demand mentoring, freelance, code review or long-term coding services.
- Codementor.io profile

2021/04 – 2021/06

DATA ANALYST, INTEL

- Collect data from various sources with web scraping, clean the data, post the data to a database.
- Tools: Python · pandas · SQLAlchemy · PostgreSQL · Jupyter Lab Notebooks
- 3-month contract: Aditi – complete

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 generates 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
        (3) DUT and test point, to name three 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
- Hardware Testing

2014/04 – 2014/06

TEST ENGINEER, EVEREST CONSULTANTS, INC.

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

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 – Automate Excel functions 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, seventy-two port RF switch, voltage controller, BERT scope and device under test to characterize Intel CPU
- Reduced the 20-minute manual test process to 3 minutes.
- Increase 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.

PROJECTS

STACK OVERFLOW SOLUTIONS

- Provide solutions to questions posted on Stack Overflow
- Python, Pandas, Matplotlib, Jupyter Lab, Seaborn, Numpy
- **CONTRIBUTIONS - 1000+ CODING / PROBLEM SOLVING EXAMPLES**

EXCEL AUTOMATION

- Using Python to automate Excel tasks, such as creating pivot tables for recurrent reports.
- How to Create a Pivot Table in Excel with the Python win32com Module
    - 22000+ views on Google Analytics
- Git Repository

MACHINE LEARNING

- Use Supervised Learning to predict Persons of Interest from the Enron Dataset
- Python 3.6.7, Pandas, Numpy, Matplotlib, Scikit-Learn – Naïve-Bayes Gaussian
- 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

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