Aaron Greenyer

A **solution focused** test automation engineer incorporating applied knowledge of electronic test equipment with **software frameworks** and **data analytics** to accelerate your testing capabilities.

Combine your expertise with **real visualisation** of product performance to confidently achieve your engineering and business goals. Practicing open and transparent collaboration to implement requirements for the optimum solution from the point of view of **functionality** and **cost effectiveness**.

Focus Areas

Design & Support	Software Development	Data Analytics
Supporting you to define dynamic improvement of your test strategies for increasingly complex R&D requirements	Pragmatic development of a scalable modular design offers tailored support for your project development	See the value of your data throughout the product lifecycle by providing greater insight for effective decision making

Your Benefit

System Qualification

- Trained by one of the top test & measurement companies with experience on a wide range of equipment
- Involved in facilitating hundreds of customers achieve their engineering goals
- Applying a Formalised System Process

Bespoke Test Framework

- Python based system for rapid development
- Standardised test structure with plug-in modules to keep your test scripts confidential
- Simple UI - run tests with a click of a button
- Effortless scalability with the use of queues, configuration files and test definitions

Reduce Cost

- Test framework with no license fees
- Automate manual tasks for dramatic productivity, liberating engineering resource and save months of development time
- Creating alternative cost effective testing solutions for faster results

Enhanced Reliability

- Use of system pre-checks to examine settings and notify users
- Error Handling to manage anomalous events and maintain test execution
- Event Logging for verification and diagnoses

Maximise Throughput

- Optimise test equipment performance
- Avoid test repetition with parameter confirmation
- Implementation of adept search algorithms

Visualise Trends

- Use of Tableau for quickly exploring data
- Scripts for automated results display
- Statistical analysis for comparing performance metrics and regression tests

Data Optimisation

- Detailed test record for data confidence
- Recording of test setup and conditions
- Formatted results for database integration

Reporting & Documentation

- Creating adaptable reporting generation for variable data sets
- Bespoke user guides for test setup and configuration

COMPUTING AND TECHNICAL SKILLS

- Experienced knowledge of Windows OS, Windows Office
- Data analysis with product testing
- Applied knowledge of Python to design and develop automated tests for product testing
- Object Oriented Programming (OOP) design
- Accomplished SMD soldering skills and techniques with reflow soldering
- Product thermal testing in climatic chambers
- RF testing in anechoic chambers
- Computer hardware (built and setup computers with dual boot Ubuntu/Windows)
- Use of data visualization tools (Tableau)

- Proficient knowledge of test and measurement equipment. DMMs, oscilloscopes, generators, analysers etc.
- Use of Prologix ethernet to GPIB adapters
- Working knowledge of VBA, VEE, LabVIEW
- Communication with DUT via SPI, I2C, RS232, JTAG, Ethernet and USB.
- Hardware Prototyping
- Parts stock and assent management
- Good working knowledge of Raspberry Pi and Arduino (use of C/C++)
- Experience with fault finding and bug reporting
- Understanding of electronic schematics

EMPLOYMENT

Contracting Engineer – Greenyer Electronics LTD   **3/2017 – Current**
Developing automated test applications for customer products

- Working with experts to accelerate progress and accomplish their project goals
- Develop a bespoke python framework to rapidly design and execute product test procedures

Technical Support Engineer – Keysight Technologies (AKA Agilent/HP)   **6/2014 - 3/2017**
Supporting customers selecting new instruments, application methods and fault diagnosis

- Trained in multiple disciplines to support customers on a wide range of test and measurement applications
- Liaising with multiple technical teams locally and around the world to form solutions to customer's inquiries

- Introducing software integration support to an industry that is evolving
- Developed applications to organise query threads and store backups for reference and training
- Managing and assisting with training of new staff

Laboratory Technician – Pure (Wireless Music Systems Company)   **12/2010 – 6/2014**
Running an electronic laboratory, assisting design engineers and designing product test solutions

- Designing and developing RF test automation solutions
- Product system verification testing
- Hardware development, board modifications

- Lab management – organising and maintaining lab, maintaining lab equipment, computers and ordering stock
- PCB design and manufacture

INVESTING & OUTSOURCING

As projects evolve it may be necessary to expand the testing capabilities and invest or upgrade test systems. With inside knowledge of test and measurement manufacturers I am able to coordinate with third party suppliers to provide technical support, prove equipment performance and present financial options for your solution.

I have worked closely with a **Data Scientist** who specialises creating statistical programs which displays optimized statistical efficiency and quality amongst thousands of tests. Further, we use these elegant visualizations for communicating insights to decision makers as well as storing and demonstrating the output across the history of a product's development.

Contracting Experience

I have operated in companies with entirely different products and applications. Each case presented a new challenge for which I successfully provided a solution and, at the same time, reduced costs and increased profitability.

Here are some examples:

WIFI AND BLUETOOTH TESTING

The client gave an extremely tight deadline to achieve their targets and meet the schedule of test certification. Previously, more than 150k data points from their tests results were manually organised and processed; Taking an unreasonable period and unnecessarily occupying the time of the technical personnel.

The conclusion was a concept created to not only automate data collection but also process the result and present these in a report which would also clearly show anomalies, errors, missing data and data statistics; The data report is available in **less than a minute**, equally, any revisions or updates are concluded almost instantly – saving months of engineering time for the client's core technology.

Other Key Developments

The automated data collection method also showed there were discrepancies due to the testing facilities and, as an example, I introduced a Wi-Fi test which demonstrated the deficiencies of the RF loss due to wiring.

RF PERFORMANCE FOR MAGNETIC INDUCTION COMMUNICATION

A new revision of this client's chip design was being tested before entering production. Following restructuring within the organisation it became necessary to change the testing and implement new testing procedures.

The original tests were limited in documentation and had no clear instructions of how the scripts should run. This wasn't compatible with the development of the product.

By reverse engineering the tests it was revealed that latest chip revision performed worse than the predecessor. After implementing further testing to investigate relevant tuning parameters I was able to discover values that optimised the performance above the previous design. These new values are now used by the client as the default settings for their production.

DVB DEMODULATION PERFORMANCE OF IP PLATFORM

In this case, the Algorithm Design Engineers were improving the performance of DVB demodulation on their product platform in order to outperform the competition. They were in need of additional testing capabilities for the new standard and to significantly reduce the duration of the tests.

I implemented the test for the DVB-S2X standard, modernised the test search algorithms and control methods with a surprising threefold increase in productivity.

Additionally, I was able to carry out test procedures in parallel by calibrating broadcasting equipment and also increasing testing output, which effectively saved investments which would otherwise have proved impossible to provide.