David Durkee

Electrical Engineer II at Odyssey Technical Solutions

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Summary

Designed hardware and software for automated test.

Schematic, layout, prototyping and production circuit boards for in-house test equipment

Current developing desktop apps using Python 2,7, C++ and C#.

Test Automation programs:

1. OASIS - Pretest, Post test and final data collection. Logs directly to an Excel form. Wizard created to assist in creating the excel form and recipe for the test.

The hardware has 4 ADCs with 7 analog inputs, 4 DACS, 8 GPIO for connecting optoisolators or relays. Communication through one program to multiple devices simultaneously. Voltages in and out, Stepper motors and relays.

2. Electro Magnetic Interference (EMI) compliance test for DO-160E - 2 Spectrum analyzers over GPIB,COM port and LAN/Ethernet.

3. AC97 and (HDA) High Definition Audio Codec audio testing record and playback characteristics for PC sound cards. I had called this test suite APTest (Audio Presicion). Thank you to David Roach for getting me started on the APTEST project, and thank you Ron Lisle for holding a lunch time learning class with the book Visual Basic for Applications for Dummies! (Way back in year 2000 or 2001)

I have used Visual Basic 6, and VB.Net 2008, VB 2012, C++ and Embedded C for AVR 8 bit microcontrollers. (used Code Vision C compiler and Microchips free/Student C Compiler.

Beginnning June 2013- learned Python for use as the user interface (wxPython) for automated test (pyserial). Using Arduino Uno, Mega 2560 and Due boards for automation. Currently developing the code for the Arduino 101 with Intels Currie microcontroller.

I have experience with Audio Precision Model One, 2500 series, 2700 series,SWR-2755, PSIA-2722. Current languages: C++, C#, Python

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Experience

Electrical Engineer II at   Odyssey Technical Solutions

May 2010 - Present (6 years 6 months)

   I'm developing a complete Automated Test System. Runs On Windows platform. Connects to PC via USB or Serial Port to record voltage measurements real time. The software is scriptable so that new tests can be added by the test technicians without the need to write new code for every new Model of equipment. Capable of controlling additional test equipment using serial port.

   The 4 layer circuit board I designed records 16 reliable voltages in 4 seconds or repeated single voltages in 50 millisecond intervals. The ADCs have 24 bits to give 20 bit usable resolution. Also, there are 2

programmable precision voltage sources with better than 1 millivolt resolution from .005 to 12 volts; positive and negative polarities. Nominal precision about .1%. The data is logged to text files with unique time + date stamped name. Real-time data fills in Excel Forms. Scripts for the Excel forms are created using a script creation wizard.

The Automated Test System was initially used for data collection for DC Voltage Supply equipment next was RF Automatch equipment from the Semiconductor sector and recently added a general Bench top DAQ we call an ODAC.

Test Engineer / Certification Engineer at   Enflite Inc.

December 2008 - May 2010 (1 year 6 months)

Electrical Functional, EMI, Vibration, Environmental, Audio and Life Cycle testing of Airplane interiors. Software development for Test Automation. Automated HP Logic analyser - GPIB connected for DO-160 EMI Test suite. Wrote Test reports for EMI, Sound / vibration and Mechanical tests.

Test Engineer at   Kodiak Assembly Solutions

October 2006 - October 2008 (2 years 1 month)

Contract Manufacturing Engineer: Debug and repair of wide array of electronics (PC add in cards, Microcontroller development boards, Cell Phone boards, Amateur radio transceivers, switching power supplies, Mixed signal audio etc. Wrote and maintained test software. Performed audio tests using Audio Precision Analyzer and switch box equipment. RMA disposition and rework.

Applications Engineer at   Sigmatel Inc

October 2002 - October 2006 (4 years 1 month)

Work in lab. Developed software (APTEST - Audio Precision Test Suite) for characterizing audio products using Audio Precision Analysers and switch box modules - Expert level experience. Built PC hardware. Prototyped circuits. Maintained inventory of PC parts, electronics parts and sample audio evaluation boards. Used Oscillicsope and logic analyser to charactorize mixed signal audio codecs. Validated test specification and followed up on errors/bugs to correct the specification or added an item *feature* list. Worked with marketing and designe engineers daily. Developed a pre-WHQL automated test suite.

Senior Electronics Technician at   SigmaTel

1999 - 2001 (2 years)

Skills & Expertise

Software Development
Test Automation
Embedded Software
Electronics
Debugging
Analog

Mixed Signal
PCB design
Microcontrollers
RF
Functional Verification
Firmware
Testing
SoC
Hardware
Test Equipment
Embedded Systems
Embedded C
Digital Signal Processors
Schematic Capture
C++
Circuit Design
Analog Circuit Design
Verilog
Hardware Architecture
Logic Analyzer
C
FPGA
Microprocessors
Spectrum Analyzer
Semiconductors
Oscilloscope
PCB Design
IC
Electrical Engineering
Automation

Education

The University of Texas at Austin
Full Stack Web Development Certification, Full-Stack Flex Program, Web Development, Computer Software
 Engineering, 2016 - 2017

Free Code Camp
Full Stack Web Development Certification, Computer Software Engineering, 2016 - 2017

Concordia College
BSEE, Electromagnetics, Control Systems, 1999 - 2001
Activities and Societies: Full-time US Army Soldier while working on degree, Visual Basic 6 Programming

Volunteer Experience

Mentor for Electrical Engineering, Python C# and C++ at   CoderDojo

May 2016 - Present

This is a great mentoring program to get kids interested in software development

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Linked in.

5 people have recommended David

"I have worked in conjunction with David Durkee on many occasions while completing EMI testing on various products. He is a detailed oriented Test Engineer who works well under pressure and always completes the task at hand."

— **Steve Rodriguez**, worked with David at Enflite Inc.

"I enjoyed working with David. He automated a series of complex performance tests and allowed the team to triple the number of customer projects processed from 12 per month to 35 in less than one year. This was a welcome improvement for the team and the company. David's efforts directly affected the bottom line by allowing the team to manage through this revenue ramp without adding headcount."

— **Alan Hansford**, *VP/GM of Integrated Components group, SigmaTel*, managed David indirectly at Sigmatel Inc

"David is a very sound Engineer. Very detail oriented and always met deadlines and goals. His program skills along with his objectivity on technical matters and hardworking approach, makes him a valuable asset in any company. His personality and interpersonal skills make him an instant fit to any work team."

— **Luciano Herrera**, worked with David at Sigmatel Inc

"David is organized and proficient. He always kept the lab in good order while keeping up with all of the projects. Great engineer!"

— **Dick Vail**, worked directly with David at Sigmatel Inc

"From the first time I met David, I was impressed. His natural curiosity and interest in electronics (at so many levels) and software elevated him above others quickly. When David worked on a project, you knew it was done right. I am surprised he hasn't started his own company. Above all that, David makes the work atmosphere more enjoyable."

— **Israel Martinez**, worked with David at Sigmatel Inc

Contact David on LinkedIn