Dallas J. Goecker

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SUMMARY:

Richly skilled conceptual to production designer of electromechanical systems with wide ranging expertise from the mechanical to the software. Strong background in motor control, power, mixed signal, and embedded design.

WORK EXPERIENCE:

Suitable Technologies Inc. – Palo Alto, CA   Feb 2011 to Dec 2018
Design Engineer
- Helped to create the Beam Remote Presence Device (robot).
  - Popular Science's Grand Award Winner in the 2013 Best of What's New
  - Featured in the movie Snowden directed by Olver Stone
  - Used in 2018 season of Big Brother.
- Created brushless motor controller for low speed, precision, and quiet movement of direct drive brushless hub motor without costly encoders.
- Designed desktop LED lighting system for on camera user illumination.

Willow Garage Inc. – Menlo Park, CA   May 2009 to Feb 2011
Design Engineer
- Developed 32-axes closed-loop motor control system for PR2 robot.
- Created "Texai" remote presence robot.
  - Featured on episode of The Big Bang Theory as the "Shel-bot"
- Helped create spinoff company to bring the remote presence robot to market.

Goecker Automation LLC. – Seymour, IN   April 2008 to May 2009
Design Engineer and Owner
- Designed compact 72V 200W closed-loop current mode motor controller with EtherCAT interface. Developed for embedded point-of-use robotic applications.
- Designed compact 72V 20W motor controller for robotic manipulator.
- Designed 6-port EtherCAT Hub.

EG&G Technical Services, Inc. – Crane, IN   February 2004 to April 2008
Radiation Electronics Engineer
- Develop complex test systems for Radiation Effects testing of developmental electronic components for the Trident LE Ballistic Missile's guidance system.

Dallas Goecker Hardware Design – Bloomington, IN   June 2003 to January 2004
Design Engineer and Owner
- Designed and built working concept for automated inspection of pharmaceutical pill packing process using a three dimensional laser and camera triangulation technique.
- Designed electronic shutter driver for sensitive camera of medical equipment inspection machine. Worked with customer to understand and develop technical requirements. Met aggressive design schedule.

NanoMuscle Inc. - Antioch, CA   February 2003 to April 2003
Test Engineer
- Designed and developed test system including hardware, software, and mechanical fixturing for automated test and parameter characterization for a new breed of electro-mechanical miniature linear actuators that utilize Shape Memory Alloy technology.
- Analyzed test results for ways to improve measurement techniques and improve manufacturing yield.
- Responsible for specifying and procuring measurement equipment.

Teradyne, Inc.
Hardware Design Engineer - Walnut Creek, CA   December 1997 to November 2002
- Responsible for development of major system components and participated in system level design of automated test and inspection equipment.
- Developed System Controller for automated optical inspection machine including 3kW programmable LED light driver, programmable sequencer, and camera trigger controller on 16"x16" 8-layer PCB.
- Documented all design guidelines, requirements, performance specifications and oversaw development of manufacturing assembly and test procedures allowing for outside contract manufactures to easy build volume product.
- Led hardware development of VXI digital functional instrument with 40x performance increase over competition and gained strategic customer market share.
- Completed development of Programmable Power Supply System.
- Redesigned Driver/Receiver board for improved reliability and performance.

Board Test Development Engineer - Agoura Hills, CA   June 1996 to November 1997
- Created tools for automating board test development process.
- Created Macro programming language to streamline creation of component tests.
- Managed bi-coastal Spectrum test platform introduction.
- Developed board-level functional test programs.
- Wrote Z18XX and Spectrum board level in-circuit test programs.

Radian Research, Inc. - Lafayette, IN   February 1995 to May 1996
Research and Development Engineering Technician
- Debugged and redesigned high precision current source used in power calibration equipment.
- Designed and built automated test systems used for production.

RELATED EXPERIENCE:

- Teach Middle School Engineering and Robotics class with self-created curriculum
- Lead High School robotics team with U.S. and State Championships.
- Created largest VEX IQ robotics program in Indiana. 2018 State Champion.
- 2018 VEX IQ Robotics Indiana Mentor of the year.
- 2012 VEX U.S. Nationals Mentor of the year.
- Designed frequency hopping wireless transceiver system for use in control of robotics.
- Developed 24V 200A 60kHz Motor Controller.
- Designed compact, high strength drive system for use in robots.
- Developed 12V 5A Mini H-Bridge with isolated CAN bus interface.
- Created worldwide 4th ranked LightWeight BattleBot as featured on TV.

SKILLS:

Power Systems, Motor Control, Thermal Testing, C, C++, Tcl/Tk, Altium Schematic Capture and PCB Design

EXPERIENCE:

PID control loops, ESD (Electrostatic Discharge), Transmission Lines, EMI (Electromagnetic Interference), Design for Manufacturing and Test Techniques, ProEngineer, Inventor, Fusion360, FPGA design, Verilog, ModelSim, Java, Assembly,

EDUCATION:

B.S. Computer and Electrical Engineering
Purdue University, West Lafayette, IN   1992 to 1996