

Doug Maly 馬德志

Electrical Engineer

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Hands-On Engineer Specialized in Power Electronics and Motors

Experienced broadly in analog electronics design, electric machine design, automation, and manufacturing. Designed hardware in research environments and applied end use technology on the factory floor. Excellent diagnostic skills. Problem solver. Global perspective gained during self-relocation overseas (Taiwan). Read Chinese and Japanese.

Open to relocation to the **Czech Republic, Japan, or Taiwan.**

- EXPERIENCE**
- Senior Engineer, Electronic Design** **May 2010 - Present**
John Deere - Power Electronics - Fargo, ND
Designing analog power circuits for John Deere flagship hybrid electric 700Vdc inverter. These rugged, four-quadrant inverters drive off-road Big Iron.
- Characterizing IGBTs: measured peaks to MWs; automated data processing
 - Tuning IGBT gate profiles to optimize 1200V / 600A power transistors
 - Performing failure analyses / troubleshooting
 - Hand soldering microscopic pitches / building fixtures
 - Custom designed SMPS transformer: magnetics and bobbin
 - Simulated circuits to conform to safety critical design corners
- Consultant** **February 2009 - May 2010**
Self-Employed - Worcester, MA
- Freelance design and reverse engineering
 - Rapid prototyping / manufacturing and test
- Principal Systems Engineer** **February 2004 - January 2009**
Allegro Microsystems - Analog ICs - Worcester, MA
Interfaced between customers and IC designers. Wrote datasheets; tested first silicon. Solved customer problems in the field.
- Resolved customer integration issues
 - Wrote Mathcad scripts to control oscilloscope and process digitized captures
 - Hand constructed dynamometer for driving electric bicycle BLDC motors
 - Designed and laid out printed circuits for demoboards with Cadence
 - Supported OEM design and production - including troubleshooting and root cause analysis of circuit malfunctions
 - Bench work and failure analysis for automotive reliability and ESD test

- EXPERIENCE** **Motor Repair and Re-Design** **December 1991 - January 1993**
(continued) **Longo Industries - Morris Plains, NJ**
- Trained to hand-wind stators by Tom Bishop, now Senior Specialist at EASA
- Tested and re-designed industrial machines from 10hp to 10MW
 - Multiplied Longo power load capacity by leveraging motor-generators (MG sets), existing DC supply, and second quadrant 480Vac panels
 - Re-wrote proprietary source code to fix 800A core tester
 - Serviced the elevators of the World Trade Center, New York City
- EDUCATION** **MSEE** - University of Wisconsin-Madison - WEMPEC **1989 - 1991**
- Modeled harmonics for space station motors under D.W. Novotny
 - Lectured junior electromagnetic machines and laboratories
- BSE / EE** - Arizona State University - Magna Cum Laude **1984 - 1989**
- Taught freshman mathematics and junior motors laboratories
- LANGUAGES** **English** - Native Speaker
- Japanese** - **METJ** Masters of Engineering, Technical Japanese, UW-Madison
- Chinese** - Fluent in Mandarin, Reading and Speaking
- Five years university level formal education
 - One summer intensive study at National Taiwan University 臺大
- Morse Code** - 13wpm; ARES licensed amateur (ND1D) DHS AUXCOMM certified

PUBLICATIONS http://www.DougMaly.com/DouglasMaly_publications.html