DANIEL MORLEY

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**SUMMARY**

Further enhances my skills as a versatile designer hardware/software for different technologies. Offer an employer a good theoretical base while focused on real world applications. Skill set focus is on finding answers and then applying it to real world creative solutions from design to hands on at the manufacturing level. Many designs are currently available and are in production on the marketplace as well as on the internet.

**SKILLS**

* Analog/Digital Engineer/Layout 14+ years
* Circuit Design 18 years+
* Actel/Xilinx and Lattice CPLD & FPGA Development 4 years
* Verilog Development
* PCB design 18 years (Altium, Cadence/Allegro, Eagle, Kicad)
* Altium 25 (own licenses seat)
* STM CUBEMX, PSOC Creator and Atmel Start
* PC System designer hobbyist
* 3D printer hobbyist
* LT SPICE and SPICE
* Control System Design
* Subversion and Git
* Debug and PCB bring up 14 years.
* DMM, Electronic Loads and oscilloscopes
* C programming with some C++
* Arduino and Raspberry Pi
* 2 years Aerospace
* 4 years Medical
* 4 years Military
* Flex Circuits 2 years

**PROFESSIONAL EXPERIENCE**

Electrical Engineer/ Scientist 6/2024 to pres.

**University of Texas,** Austin

* Thermal Control System
* Fusion Research
* Labview
* Siemens S7 1500 PLC

Electrical Engineer/Firmware 1/2024 to 6/2024.

**Guinn Partners,** Austin

* BMS PCB and Electrical Design using Altium.
* Analog Design, FETs, BJT’s, OPAMP’s etc.
* Padauk Programming and development
* Energy Harvesting
* Git
* Power Electronic Design. SMPS with constant current monitor electronics.

Senior Electrical Engineer (Hardware) 2021 to 2024

**Lithion**, Round Rock

* BMS PCB and Electrical Design using Altium 365 Administrator
* Analog Design, FETs, BJT’s, OPAMP’s etc.
* Hardware Bring up.
* STMicroelectronics Cube MX
* Develop hardware for BMS, Lithium Chargers and Inverters
* LT Spice and TINA
* Hands-on development of PCB’s and Flex PCB’s in Altium
* Over 40 boards were designed from scratch and for manufacturability.
* Layout of PCB DDR, differential pairs, match length, antenna’s, control impedance, and IPC standards for Current up to 30 AMPs and 1,000 V.
* Organize BOM
* Logic Design with KMAPs
* Inverters and BMS
* Switch Mode Power Supplies

Electrical Engineer/Firmware *2020 - 2021*

**Velentium,** *Austin TX*

* Schematic capture
* Blue Tooth Development Nordic
* PCB Layout Altium 21 (products and test equipment)
* Cadence Allegro and OrCAD PCB
* Test on Dev Kits
* Medical devices AED and Implants
* Write test procedures and perform test.
* PCB Bring up.
* Implants and Defibrillator
* Jira, Bitbucket and SourceTree

Embedded Design Developer (contracts) 2016 – 2020

**Alley Cat Technology*,*** Austin TX

Dell, Lockheed Martin, IBM, Certus Critical Care, and others

* Develop PCB schematic capture and PCB layout (Altium and Cadence Allegro with OrCAD) using ARM processors (M0 & M3, M4, A9) and AVR processors, both hardware and firmware (Keil, Atollic, MPLAB & Studio 7) for these projects. Peripherals include SPI, I2C, USB, UART, Ethernet, and GPIO
* Bringing up Hardware
* Develop Drivers for Ethernet, Bluetooth, Wifi, Standard Peripherals.
* PSOC Development
* IofThings in the design of Bluetooth, Zigbee and Wi-Fi systems
* Test hardware with oscilloscopes, Benchtop Power Supplies and Multimeters
* Power Electronics Design
* Utilize MATLAB for PID calculations.
* JTAG

Component Engineer 2014 – 2016

**Austin Reliability Labs***,* Austin, TX

* Analyze and evaluated BOM by reviewing data sheets.
* Products evaluated include oscillators, transistors, capacitors, integrated circuits, inductors, and transformers.
* Perform engineering calculations that involve both electronics and thermodynamics.
* Relay communications with design engineers on errors in BOM and suggest suitable replacements.
* Enter data and calculations into a database for derating components.

Hardware/Test Engineer 2011 – 2013

**Siemens** *ITS,* Austin, TX

* Design hardware (M52 and 2070) schematics that follow NEMA and Caltrans standards for the traffic industry with international teams.
* Research BOM and apply design rules including schematic design with testing procedures for validation of the design.
* PCB (Altium-Cadence/Allegro) development of the board (USB and audio)
* Design and develop FPGAs with Verilog for interfacing to Freescale 68K Processors that follow industry specifications.
* Test PCB prototype peripherals such as SPI, USB, SDLC, Ethernet and RS 232/RS485
* File all designs and BOM's in Oracle/Sap database system that follow Siemens global design procedures.
* Simulation with Spice to verify analog design, to be included in PEP documentation.
* JTAG

Contract Hardware Design /Firmware Engineer 2009- 2011

**Manning Environmental, Luminex, Biomedical International**, Austin, TX

* Designing electronic hardware, multi-layer PCB layout, schematic capture, board testing, power supply design, firmware development and product research
* AC/DC and DC/DC converter for up to 100 W through power supply brick solutions
* Software development is currently reviewing existing firmware files for debugging and assessment of hardware modifications.
* Designing electronic hardware, multi-layer PCB layout, schematic capture, board testing, power supply design, firmware development, cable design and product research.
* FDA, IEEE, and industry standards have been included in device documentation and design files.

**EDUCATION**

**Bachelor’s degree in electrical engineering**

The University of Texas at University of Texas at the Rio Grande Valley, Edinburg, TX

**Bachelor’s degree in chemistry**

The University of North Texas, Denton, TX

**Bachelor’s degree in physics**

The University of North Texas, Denton, TX