

Michael Anfang
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Seeking opportunities in Electrical Engineering related fields

core competencies

Digital Design	Debug/Reverse Engineering	Leadership
FPGA design, test, and debug	Intuitive/efficient problem solver	Effective project manager

primary technical skills

FPGA + CPLD	Software	Equipment/Platforms
Altera w/ Quartus II toolchain ActiveHDL Cyclone platform Bus interfacing	Competent: C, C++, Python Familiar Java, Javascript,	Linux, Windows, Mac Visual Studio, Code::Blocks, Eclipse Vim, Notepad++ Tektronics/LeCroy lab equipment

experience - aerospace/defense, automotive, process equipment

Lead Engineer - Model Electronics Ramsey, NJ 4.2011 - Present

- *Reverse Engineered OEM Radios and Instrument/Display panels
Used Intrepid Vehicle Spy platform for debug, then wrote a custom C application using Vector's CANcaseXL hardware to flash devices with new VINs and odometer values. VC++ in Visual Studio and C++ in Code::Blocks IDE.
- *Cryptographic experience
Multi-processing scalable Python application to detect matches to specific algorithms, using known matching pairs, using Eclipse IDE. Scaled up to 10 cores in virtual machine
- *Engineering Manager
Managed four employees in bluetooth phone testing, misc. system assembly, and debug
Handled instrument purchasing and calibration
- *Saved ~\$600 per radio unit, ~\$100 per instrument panel, estimated \$500k-750k savings a year

FPGA Design Engineer - Tel Instruments Carlstadt, NJ 9.2008 - 3.2011

- *Implemented industry first AIMS certified Mode 5 ramp test set
- *Primary responsibility for Mode 5 subsystem. Mode 5 is as-yet unreleased new IFF protocol.
- *Product work included:
 - Mode 5, Mode 4, Mode S, SIF IFF communication protocols
 - KIV77 and KIV78 military crypto integration/interfacing
 - Altera Cyclone III + MAX CPLD platform
 - Full sub-system design, implementation, simulation, debug
 - 50k logic element team design @ 80Mhz

Implemented I2C, SPI, HPI, and proprietary crypto interfaces
FPGA control of PLLs, ADCs, DACs, Switches, etc

***Additional Contributions**

Planned/implemented: internal testing, version control system (SVN), Bugzilla issue tracking,
company-wide wiki

Estimated \$10k savings for company vs outside implementation, and significantly shortened
development times as no testing/control procedures were in place at start

Newbit Computing- Founder

1.2008 - 9.2008

*Computing/IT startup

*Business management experience

*Web design, IT support, small networking, etc

Project Manager - Veeco Turbodisc S Bound Brook,, NJ

6.2007 - 3.2008

*Project Manager for metal oxide chemical vapor deposition systems (MOCVD)

*Directed teams constructing and testing \$500k-2M process equipment

*Designed AutoCAD schematics for custom systems

*Managed software versioning

*Configured Dell servers / Nikon optical measurement hardware

*Multiple small-scale full PCB designs brought to production with GSchem tools

*Interaction with international executives

Intern - National Science Foundation

University of Maine

6.2006-8.2006

*Member of highly competitive Research Experience for Undergraduates program

*Research, designed, and implemented high-frequency piezoelectric crystal filters

*Hand-built PCB to test crystal frequency response + harmonics in a variety of configurations

*Wrote and drafted tech reports, abstracts, and manuals

Misc Design Experience

*Solar power system design/implementation in Haiti with non profit org F1engineering.org

Helped design system to run small orphanage

Built with team of volunteers over 10 day trip to location in Grand Guave, Haiti

*Underwater Remote Operated Vehicle (ROV)

FPGA - based control system

Power, PCB layout, component selection/integration

VHDL and C programming

*VLSI CMOS Chip Design

Single-chip speedometer/tachometer

Transistor-level design, SPICE analysis, MOSIS SCMOS rules

*Matlab

Signal mixing/decoding

Digital noise reduction filter and 8-band equalizer

Mode 5 signal simulations

education

Cedarville University, B.S. Electrical Engineering
Cedarville, OH

2003-2007

life experiences / additional skills / misc

Full Microsoft Office suite competency and OpenOffice equivalents

Magic VLSI, AutoCAD, OrCAD, Quartus II, Excel, Matlab, Octave, LabVIEW experience

GSchem (Linux PCB CAD package)

HTML, CSS, PHP

Independent PC building/repairs and avid overclocker

Chaplain of Cedarville University Sophomore class (2005)

Summit Leadership Camp alumnus (2 years)

National Merit Society Commended Scholar / Member of National Honor Society