

Benjamin Catlin

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Key Qualifications

Broadly educated across Electrical, Computer, and Software Engineering. Proven track record as an innovative problem solver in bringing new products to market as well as value engineering existing products to be more effective and efficient.

- Independently wrote and released an open-source ModbusTCP protocol client application to the Android Market.
- Designed and developed a Bluetooth-based proximity networking Android application as part of a two person team for a local start-up company.
- Led development of two new controls platforms from conception to customer delivery, including a large-scale (~\$1M), time sensitive product, designed for expanding business to an emerging market.
- Proven leader in innovation – both in discovery and practical application of new technology, as well as creating long-term focused solutions to complex problems.

Technology Skills

Advanced Experience

- Microsoft Windows (3.11 – present), Linux (Ubuntu 6.06 – present), Android
- IEEE 61131-3
- CodeSys, RSLogix5000, RS View Studio
- Microsoft Office, Visio

Intermediate Experience

- OS X (10.5 – 10.6), iOS
- Java, C, C#, HTML, CSS, Javascript, X86 Assembly (NASM)
- JQuery, Eclipse, Git
- Modbus TCP and RTU, SCPI, BiSync, XMPP
- AutoCAD, SAP, ViM
- Wordpress, Drupal, MediaWiki
- MySQL, SQLite
- Samba, LikeWise Open, MythTV

Familiar

- Ruby on Rails, Labview, PHP, VBA, C++
- Visual Studio, GIMP, Inkscape
- Mercurial, Bazaar
- Apache, eJabberd, openSSH
- Handbrake, Wireshark

Experience Highlights

Systems Innovation – Creating outside-the-box solutions that push the boundaries of existing products and processes.

- Wrote a new controls software architecture including web-based configuration tool that saves roughly 200 hours of development engineering per year.
- Developed a completely new Ethernet-based control system that reduced cost of temperature-loop control by roughly \$72k on a single system installation. This included creating a custom ASCII protocol.

New Product Design – Personally designed as well as lead teams in designing hardware and software controls for components within a larger system, as well as creating complete controls architectures.

- Led a \$1M project to conceptualize, design, and build a 19 inch Electronics rack with mounted 600A worth of AC power distribution along with all cabling to DC switching power supplies.

Value Engineering – Reduced material costs and labor by designing replacements for obsolete products and re-engineering existing procedures and products for efficiency.

- Improved existing drive-imaging procedure, and created a server-driven process at Total Control Solutions which saves the small business roughly 200-300 labor hours per year.
- Designed and implemented a link from MRP database to technician production documentation to improve customer quality assurance.
- Lead several safety improvement efforts as well as improvements to operator usability and ergonomics on a large-scale tissue manufacturing line.

Supervising and Leading – Trained and oversaw vendors, new employees, and volunteers, including managing timely delivery of outsourced engineering.

- Supervised anywhere from 1 to 3 on-site vendors at a time as lead engineer on multiple software and hardware design projects.
- Participated on leadership team for inner city church-plant that has now grown to 600 average attendance.
- Taught courses during field service training and multiple church workshops, including a regional training of two classes with over 100 in attendance.
- Lead 6 different small groups of diverse people (ranging 5 to 15 people) - in Bible studies and community service projects, which lasted 3 months to 1 year each.

Employment History

[Veeco Process Equipment – MBE Division](#), St. Paul MN

<http://www.veeco.com/products/molecular-beam-epitaxy.aspx>

Electrical Design Engineer

June 2006 – Present

[Total Control Solutions, Inc.](#), Corcoran MN

<http://www.totalcontrolsolutions.com>

Product Engineer

July 2005 – June 2006

Applications Engineer

September 2004 – July 2005

[Kimberly-Clark Corporation](#), Fullerton CA

<http://www.kimberly-clark.com/>

Electrical Engineering Internship

January 2002 – August 2002

Educational Highlights and Awards

- Bachelor of Science in Electrical Engineering from the University of Illinois at Urbana-Champaign 2004 with a minor in Computer Science.
- Best overall team project Spring 2001 ECE291: Computer Engineering 2 - Assembly Programming, for a functional copy of Dance Dance revolution written in NASM X86 Assembly.
- Completed a broad range of coursework including computer science, computer hardware design, control systems, sensors and instrumentation.
- Completed Vineyard Leadership Institute training program for professional and volunteer leadership.