

- Objective:** To obtain an exciting and challenging position in hardware or software computer engineering.
- Education:** **BSE, concentration in Electrical and Computer Engineering / Mathematics Minor**  
**Calvin College**, Grand Rapids, MI, May 2003  
GPA: 3.33 out of 4.00
- Graduate Coursework**  
**Columbia University**, New York, NY  
Course List: Digital Image Processing, Communication Theory, Operating Systems, iPhone/Android Development, Computer Architecture, Display Science & Technology  
Current GPA: 4.00 out of 4.00
- Relevant Skills:**
- CMOS image sensor characterization, verification and bring-up
  - C/C++ including STL, threading, and networking (Berkeley sockets, lwIP, low-level Ethernet)
  - C/C++ GUI APIs: Qt, Win32 SDK, MFC
  - Basic logic design / simulation using Verilog HDL and schematic entry
  - Basic circuit analysis, image processing and GPGPU techniques
  - Shell-scripting, GNU Makefiles, Perl, HTML, PHP
  - GNU/Linux and Apple OSX operating systems for programming and systems administration
  - Excellent problem-solving and system debugging skills
  - Excellent ability to quickly master challenging, complex systems
- Awards:**
- US Patent 7405650, *Device with Improved Serial Communication*
  - Several additional patent applications
- Work Experience:** **Gentex Corporation**, Zeeland, MI, June 2003 - Present  
*Senior Electronics Research Engineer*, Advanced Technology Department  
Responsibilities include:
- Lead engineer developing next generation custom image sensor
  - Designing, testing and maintaining an FPGA-based embedded system used as a frame-grabber for a custom image sensor.
  - Designing, testing and maintaining cross-platform data acquisition / storage / visualization software suite supporting advanced product development.
  - Designing advanced production test / control software for wafer-level testing of custom image sensors.
  - Creating, developing, testing a proprietary serial communication protocol and PCI-based implementation to facilitate advanced tester applications.
  - Porting and maintaining Linux/BSD/OSX versions of company-wide software libraries for internal cross-platform software development.
  - Developing Linux kernel drivers and control software for both custom and off-the-shelf image sensors.
- Solidus Design**, Grand Rapids, MI, January 2002 - May 2003  
*Web Programmer*  
Responsibilities include:
- Creating e-commerce solutions for customers using PHP, Perl, PostgreSQL and Apache.
  - Maintaining existing e-commerce infrastructure.
  - Interfacing with both designers and customers to determine design requirements and feasibility within a negotiated schedule.
- Electrical Engineering Department, Calvin College**, Grand Rapids, MI  
*Senior Design Project*, September 2002 - May 2003  
Project Details / Accomplishments include:
- A PCI card encapsulating an embedded system running the Linux operating system that transparently filters network traffic and appears to the host machine as a standard network interface card.
  - Developing a project schedule including work/task distribution.
  - Designing / fabricating / Debugging the PCI Card.
  - Porting the *colilo* bootloader to the MCF5249 and re-contributing the code to the OpenSource project.
- Electrical Engineering Department, Calvin College**, Grand Rapids, MI  
*Research Assistant*, May 2002 - August 2002  
Responsibilities include:
- Developing a network monitoring system for a Beowulf Cluster.
  - Designing / developing a PCI card to implement the network monitoring system.
  - Writing a custom netfilter hook / PCI driver in the Linux kernel to facilitate hardware-based network traffic monitoring.
  - Presenting the PCI card monitoring system design at the 13<sup>th</sup> Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics.
- References:** Available upon request.