# Daniel Schmidt

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**Objective:** To become as skilled in the design of control systems and robots as I possibly can

## Education:

**California State University, Sacramento: 2012 to Fall 2014**
**Grade Point Average: 3.85**
**Degrees in Progress:**
- B.S. Electrical Engineering – Controls

**Sacramento City College: 2007 to 2012**
**Grade Point Average: 3.84**
**Degrees Completed:**
- A.S. Electronic Facilities Maintenance Technician , Telecommunications Technician, Mathematics

## Programs and Courses Studied:

- PC Assembly and Repair
- Operating Systems Experience (Windows, Linux, iOS)
- Soldering and high-tech assembly
- AC/DC, Semiconductor theory and analysis
- Microprocessors and digital circuits
- Receivers and transmitters
- Mathematics, General Chemistry, Physics
- Network analysis
- Logic design, HDL - Verilog
- Transistor amplifier design
- Analog/Digital control system design
- Machine Vision
- Microprocessors
  - Intel x86
  - ARM – Raspberry Pi
- Microcontroller programming
  - Atmel ATmega328
  - Parallax Propeller
- Robotics

## Experience:

- Programming Languages: C/C++, Python, Perl, batch, shell, Intel Assembly, Verilog
- Test Equipment: DMM, Oscilloscope, AWG, Protocol Analyzer
- Software: Pspice, Multisim, ADS, Matlab, MS Office Suite, Apache Open Office, Quartus II

## Projects:

- Senior Design:
  - Home infant monitor with hot-swappable, self-identifying sensors and Web-based interface
    - Designed hot-swappable 'smart sensor' modules which identify themselves as well as check sensor data for threshold levels indicative of a medical emergency and alert main hub
    - Designed interface between sensors and main hub using Inter-integrated Circuit ($I^2C$) Bus
    - Constructed all hardware components; Designed template for chassis fabrication
    - Performed device and sensor hardware testing; DMM, Oscilloscope, writing and evaluating test code
    - Participated in Idea-to-Product competition for Biomedical design projects
- Robotics:
  - Laser-guided PID-controlled mobile robot
    - Wrote code for Proportional-Integral-Derivative control of robot's position
    - Tested robot to determine optimal value for PID tuning parameters
    - DC motors, IC H-Bridge, Arduino for robot control and Raspberry Pi for image processing
  - Autonomous mobile robot with Infrared and Ultrasonic obstacle detection
    - ATmega328 – Arduino on a breadboard
    - Proportional Control of DC motors – using proximity feedback from sensors
  - Autonomous mobile robot with Infrared obstacle and edge detection
    - Parallax Propeller with C/C++
    - Continuous rotation servos
  - PID speed controller for DC motor using $I^2C$ interface (Sensor to Controller)
- Testing
  - Developed software to control a cross-temperature test flow for SSDs in a Linux environment
    - Object-oriented, compiled using g++ and Linux "make" utility
    - GPIB interface to control temperature and power
  - Developed software to automate a power cycling control system with verification scripts to test functionality of multiple SSDs
    - Controlling PCs across a network using PsExec