

## **Kirk Fitzpatrick**

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### **Education**

San Francisco State University, 2004-2008  
Bachelor of Science in Electrical Engineering

### **Work Experience**

#### **Aircraft Engineer, March (2009) - Current**

*United Airlines, San Francisco, California*

#### **Manufacturing Engineer, January (2009) - March (2009)**

*Production Robotics, San Leandro, California*

- Responsible for interfacing touch screen user interfaces with PLC control circuits and 6 axis robotic power servos, linear and pneumatic actuators, sensors and laser vision systems.
- Referencing, designing and updating 3 dimensional Solid Works CAD models for assembly and installation of custom end effector designs and conveyer transport systems.

#### **Networking Administrator, 2002-2004**

*Piercey Toyota, San Jose, California*

- Maintained primary server and print server communications
- Developed and maintained various local area networks (LANs)
- Responsible for upkeep and security of all departmental PC's

### **Projects**

#### **Rotary Inverted Pendulum, 2008**

Purpose: The inverted pendulum is a classical control theory problem used for testing real-time control algorithms. Digital PID Control was implemented via dual 20Mhz ATMEL MCUs. Developed a custom Matlab GUI for PID parameter control with USART(RS232). Local MCU communication utilizes SPI.

#### **Electromagnetic Anti Lock Brake System, 2007-2008**

Purpose: To design a system that can provide proportional braking to trailing vehicles (trailers) while monitoring wheel feedback. Past and present wheel frequency via (digital encoders) along with vehicle acceleration (accelerometer) provides the MCU critical data to manipulate the compensator.

### **Functional Computer Languages**

C, C++, MATLAB, Learning Python, HTML, ATMEL & 68HC12 Assembly

### **Leadership & Development**

Institute of Electrical and Electronic Engineers (IEEE)  
Captain, San Francisco State men's wrestling team  
Captain, James Logan men's varsity wrestling team

### **Achievement**

College of Science and Engineering Project Showcase  
2<sup>nd</sup> prize, Inverted Pendulum  
Dean's List Recipient, Multiple Semesters  
2<sup>nd</sup> Place, California State Wrestling Tournament, National Qualifier  
154lb Jui-Jitsu World Champion