Ethan Michael Harte

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Education

University of California, Santa Cruz **September 2013 - Present**
Santa Cruz, California
Expect to graduate in 2017 with a Bachelors of Science in Computer Engineering with a focus on Digital Hardware.
GPA: 3.32

Relevant Course Work:

Computer Systems and Assembly Language
Computer Systems and C Programming
Logic Design
Computer Architecture
Analog Circuits
Logic Design with Verilog
Microprocessor System Design (In Progress)
VLSI Digital System Design (Plan To Take)
Digital Signal Processing (Plan To Take)

Experience

Leeps Lab Research Intern at University of California, Santa Cruz **December 2015 – Present**
leeps.ucsc.edu

- Working under Professor Kristian Vargas Lopez on a behavioral economics project.
- Designing a facial recognition program to determine and log the emotional state of a subject.
- Using Shimmer Sensors to log heart rate (PPG) and skin conductance (GSR) data.
- Gained knowledge on compilers and libraries in Linux.

ObjectRekt - Flir Hackathon **June 2015**

- ObjectRekt uses the FLIR Lepton, a longwave infrared thermal imager, along with OpenCV object recognition to create an automated tracking camera designed for presentations.
- Learned how to use a Raspberry-Pi. Used it to recognize the presenter's location based on the body's thermal signature and determine the best path for the camera to take.
- Worked in a team of five.

Emocar - Sponsor Prize at CalHacks Hackathon **October 2014**

- Emocar uses a brain-computer interface that allows a user to control a car with their mind.
- Learned how to detect patterns in noisy data. Used this to determine if the raw EEG data matched a command for the car.
- Sent instructions based on the EGG data to control motors on an Arduino car.
- Worked in a team of four.

FindAR - First Place at HeroHacks Hackathon **August 2014**

- FindAR is an augmented reality headset made from an Oculus Rift with a webcam mounted on top.
- Learned filter algorithms using OpenCV such as: filter by color, facial recognition, object detection, and various other filters.
- Taught myself Python and C++ for this event. Used this knowledge to help layout our main program.
- Worked in a team of five.

Skills

Hardware:
Microcontrollers (Arduino, Raspberry-Pi, PSoC)
Shimmer Sensors
Flir Lepton Thermal Imager
Speaker / Amplifier Design
Digital and Analog Circuit Design
Circuit Design using CMOS

Software:
PSPICE, PSoC Creator, Xilinx ISE, GTKWave
OpenCV, Boost, Affdex, Curl, Git
Scripting (UNIX Shell, Python)
C/C++, Verilog (Including System), Arduino
HTML/CSS, Java, Matlab