Dear Reader,

I started off EE by learning how to solder from various kits I ordered off Amazon using either THC or a SMD layout, though I did not know why or how the components of the circuit worked the way it did. My first project that I learned was a simple NE555 circuit to generate square wave pulses(at a fixed frequency). I gradually improved my knowledge by understanding pin layouts and circuit schematics for other IC chips, microcontrollers, transistors, MOSFETs, and thyristors. I also learned to use an oscilloscope to debug and check circuit behavior across different points of my circuit. An oscilloscope always helps when for example I want to see if the debouncing effect from a push-button is cleared or not(Are there rising and/or falling edges that is interfering with an ICs performance because multiple high and low signals are interpreted?).
Here are some projects that I have completed:

- 4-way Traffic Light
- Push button controllers reaction game with a scoreboard
- Electromagnet railgun
- Dark line following car
- Charging Block made with both methods:
    - Transformer > full bridge rectifier > capacitor for smooth DC > buck converter > voltage regulator
    - Full bridge rectifier > smoothing capacitor > oscillating/SMPS flyback circuit > output diode and output capacitor > optocoupler
- FM transmitter and FM receiver circuits (Microphones, Radios, Speakers)
- Fingerprint scanning/registry and identification lock/unlock control
- Ultrasonic Arduino Robotic Car(auto or RC)

I have complete understanding on how to use the following equipment:

- Mixed Signal Oscilloscopes(digital oscilloscope with 2 separate buses of 8 digital channel pins). I use and read the manuals for the following oscilloscopes:
    - Keysight Technologies MSOX3052A(I mainly use this oscilloscope)
    - BK Precision 2563 MSO(For extra BNC ports/ testing points in circuit, mask testing, better memory depth/waveform accuracy, and double checking results.)

- Adjustable DC Power Supply
- Soldering Station/Soldering Iron
- Heat Rework Gun
- Function/Waveform Generator(I currently use the Siglent SDG6022X)
- Variac(I also know how to set up the Variac terminals)
- Digital Multimeter(I currently use the Fluke 87V)
- LCR Meter
- DC Electronic Load Tester
- LTSpice(Software circuit schematic creation, I don't find testing the circuit on LTSpice reliable)
- Spectrum Analyzer(I currently use the HP 8562EC)
- Vector Network Analyzer(Using the Smith Chart and Measuring S Parameters)
- Power Analyzer(I currently use the Voltech PM1000)
- Raspberry Pi 4B and Raspberry Pi 5
- Arduino Uno R3 and Arduino Mega 2560 R3
- High voltage differential probe(any point on circuit can reference as ground)
- I also understand how C++ and Python programming languages work.

In summary, I see electric engineering as a fun hands-on project that I do as a hobby. I also have a youtube channel that I am making EE videos on at https://dry.gg. If I am one of the candidates that you decide on, I would be interested in learning more about the projects I will contribute to and the problems I will tackle at your company. This will enable me to set appropriate expectations for myself and determine what I should understand in order to organize my efforts to help my team succeed. I look forward to build and demonstrate my abilities as a electric engineer. Let's continue this conversation further!

Best,

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