Rex McKinnon

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Feel free to email me at the address above or `rexmckinnon1@gmail.com`. If you would like to speak over the phone, please send a quick email so I know to expect your call. Thank you for taking the time to read.

About

My name is Rex, I'm 25 and from the southern United States. I have a passion for figuring things out. My interests include designing PCBs, programming, and backpacking. Although I have no formal technical education, I'm pursuing a career in the field to satisfy my desire to develop products that people use and (hopefully) enjoy.

Resources

Github

`github.com/rex--`

Website

`rex.mckinnon.ninja`

Résumé

  Web

  `rex.mckinnon.ninja/resume`

  PDF

  `rex.mckinnon.ninja/resume.pdf`

  Source

  `rex.mckinnon.ninja/resume.adoc`

You can find the latest version of my resume in an easily downloadable one-page html file at the link above. A PDF is available by appending `.pdf` to the URL. This document is written in AsciiDoc, and the source is also provided.

Technical Experience

- Soldering: SMD - stencil & paste, manual pick and place, 0402/WLCSP

- Microcontrollers: PIC16, AVR, DA14531(ARM M0+)

- Digital Measurement/Debugging: multimeter, logic analyzer, vector network analyzer

- PCB Design: KiCad, Eagle

- 3D CAD: TinkerCAD, FreeCAD, OpenSCAD, Sketchup

- Programming Languages: C, Python, Shell, Make

- Linux: Arch, Debian

flipflop `github.com/rex--/flipflop`

Serial bootloader for PIC microcontrollers.

This project required me to implement the most functionality possible in the least amount of instructions. Features include auto-baud and 1-wire mode for the serial connection. A logic analyzer was used heavily to debug the custom protocol that is used for data transfer.

PowerPIC `github.com/rex--/powerpic`

Replacement board for Casio DataBank watches.

I've always loved my calculator watch, so I decided to customize the hardware. I designed a custom PCB to replace the original, while reusing the enclosure, buttons, and display. A programming jig with pogo pins was 3D modeled and printed for holding a bare PCB in order to program the firmware to the PIC microcontroller. The firmware is written in C99 and compiled with Microchip's XC8 compiler. It's structured as a framework, such that applications can be rapidly developed and added to the project.

picchick `pypi.org/project/picchick/`

Python Utility for programming microcontrollers.

I've developed this python utility to easily program various microcontrollers. That required an understanding of the INHEX32 format and how different compilers store data in it. Each type of microcontroller requires a different hardware programmer, these range from a simple USB-to-UART to a custom developed device.

git-publish `github.com/rex--/git-publish`

Shell script that provides a way to publish files to a server using git.

This script was brought about trying to find a good way to update the files on my web server. It was my first moderately long shell script where I had to parse sub-commands, flags with and without arguments, and required and optional positional arguments. The script is POSIX shell compliant, relying only on a few common *NIX utils such as `cut` and `rev`.

Work Experience

- Forklift: Pallets with raw material/boxes, Oversized Loads, Precision operation (tight spaces)
- Cooking: Flat-top griddle, fryers, fire grill, prep
- Inventory: Picking from warehouse, dropping at destination, unload trucks, restock
- Customer Service: Address questions and concerns directly, provide estimates of price and timeline
- Priority management: Quickly evaluate how long different tasks take and prioritize based on other responsibilities.

Forklift Operator / Material Handler
Tesla *August 2021 --*

- Transport parts from warehouse to assembly line in a timely manner, while adhering to all safety precautions.
- Use web-based (tablet) inventory system to keep stock levels accurate. Pick and drop product in real-time so it can be tracked through out the warehouse.
- Coordinate with Dock team members about low stock levels, so trucks can be expedited to prevent production downtime.

Line Cook
Struts *September 2020 - May 2021*

- Communicate with front of house about ordered tickets.
- Prepare and expedite tickets to be served to customers.
- Open/close restaurant, making sure all daily duties have been done.

Turf Grass Specialist
EnvyLawn *September 2018 - August 2020*

- Prepare proper chemical dilution for general and specific targeting of pests in turf grasses.
- Perform application to turf in accordance with local regulations and company specifications.
- Provide customer service, addressing any questions or concerns about application.

Line Cook
Applebee's *March 2016 - May 2018*

- Preparing dishes to be served to customers.
- General cleaning and maintenance of kitchen equipment.

Education

Programming Boot Camp
42 *2020*

General Education Development
Gadsden State Community College *2016*

Forklift Certification
Tesla *2021 - 2024*