Elias James Howell

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EDUCATION

- **Texas Tech University** — Lubbock, TX
  Bachelor of Science in Computer Science — *Aug. 2019 – Present*

EXPERIENCE

- **Pico Technology** — Tyler, TX
  Embedded Software Engineer — *Nov 2020 – Jan 2021*
  - **ESP32S2 IoT Development**: Worked on a leak detection project for electronic vehicle batteries. This included writing firmware for the ESP32S2 that sent ADC readings and received ADC setup parameters over MQTT/TCP.
  - **Data Analysis**: Utilized awk, grep, and python to organize, analyze, and graph values from massive text files generated by our prototype, often hundreds of thousands of lines.

- **Pico Technology** — Tyler, TX
  Research and Development Intern — *May 2020 – Sep 2020*
  - **Product Research**: Researched development boards and SoCs to find the most efficient and suitable development board for a new product line.
  - **Pneumatic Research**: Developed very specific pneumatic equations for experimentation in developing a potential product.
  - **Data Analysis**: Utilized the PicoScope 6000 and it's math channels to stream and collect data which was then compared and analyzed with my python scripts and pneumatic equations.
  - **Release Management**: Spent a lot of time testing software builds for PicoScope release candidates.
  - **STM32 Firmware Development**: Experimented with sending voltage readings over bluetooth low energy from an STM32 development board to mobile devices.

- **Pico Technology** — Tyler, TX
  Electronic Assembler — *Feb 2019 – Sep 2019*
  - **Product Assembly**: Assembled thousands of pressure transducers and their accompanying kit components in a massive build order for Toyota/Lexus.
  - **Soldering**: Quickly learned how to solder all of the transducer's electronic components with my eyes closed.
  - **Quality Assurance**: Played a pivotal role in spotting a component defect on our boards that was emitting a very high pitched frequency.

- **Tyler Economic Development Council** — Tyler, TX
  IT Support Specialist — *Sep 2017 – Dec 2017*
  - **System Administration**: Setup both an Apache web server and an Nginx web server to squeeze some use out of an old dell poweredge. Became very familiar with the Unix core utilities, wrote a lot of shell scripts, and even wrote a few Perl scripts.
  - **End User Technical Support**: Provided end user technical support to our staff which included diagnosing both hardware and software related issues; we also moved a lot of the staff off of legacy hardware and onto some beefier workstations.
  - **Penetration Testing**: Utilized OpenBSD's packet filtering and tools from Kali Linux to harden network security and identify potential vulnerabilities for the Tyler Economic Development Council. A lot of time was spent analyzing packets with Wireshark.

PROJECTS

- **Seedbox Germination Script**: A python script that collects all magnet links on a specified web page and populates your default torrent client with the collected magnets.
- **Project1999 For Linux**: A small shell script that installs EverQuest Project 1999 on Linux.
- **Arduino Morse Code Translator**: An arduino sketch that translates a string of text into Morse code audiovisually, through text, an LED, and a buzzer.
- **David Foster Wallace Bot**: A python IRC bot that responds to messages containing predetermined flags with a David Foster Wallace quote from a pool of quotes scraped from brainyquotes. You can change the author to anyone who has quotes on brainyquotes.
- **Go Fasting**: Gets today's fasting restrictions from The Greek Orthodox Archdiocese of America. Written in Go.
- **Go Pray**: A prayer helper for Orthodox Christians. Written in Go.

PROGRAMMING SKILLS

- **Languages**: C, Go, Python, Shell   **Technologies**: Nginx, Apache, Docker, Acme, GDB, GCC