

# Phill Kelner

Systems Integration and Test Automation Engineer

## Education

### Rochester Institute of Technology

// Rochester, NY  
Electrical Engineering B.S.  
Computer Engineering Option  
Graduated May 2018  
GPA: 3.07/4.00

## Objective

To obtain a challenging full-time position that combines my skills with hardware and software, with the opportunity to expand my field of expertise and provide meaningful contribution to the advancement of new technology.

## Technology

// Platforms  
Windows | Ubuntu | Linux | AWS  
MATLAB | Docker  
// Languages  
Python | C | C# | Java | Rust  
Assembly | Bash | JavaScript  
// Embedded Architectures  
Cortex | AVR | ESP32  
// Drawing Tools  
PTC Creo | Microsoft Visio  
// Hardware Design Tools  
Eagle | LTSpice | Cadence | Altium  
// Software Version Control  
Git | SVN | Dimensions  
// Continuous Integration  
Jenkins | AWS CodeBuild

## Skills

Software System Level Design  
Interdisciplinary Communication  
Project and Team Management  
Wiring Harness Manufacturing  
Schematic Drawing and Design  
Microcontroller Programming  
Fast Prototyping  
CAN Bus interaction and Testing  
Customer & Vendor Interaction  
Regression Testing

## Hobby Work

Wrote Verilog code to create a 12-bit processor with basic assembly instructions  
Developed battery powered remote device reporting plant moisture using an ESP32.  
Utilizing Home Assistant to build out a cloud-less Home automation system

## Experience

### Amazon | Project Kuiper // June 2021 - Present

Hardware Engineer (2021-2022) | Software Development Engineer (2023-Present)  
Spearheaded software development to control Electrical Ground Support Equipment rack for Amazon Kuiper satellites in preparation for testing and launch site operations. Wrote test hardware drivers for internal test automation framework.

#### // Key Achievements

- » Directed technical revamp of Ground Support Equipment software from Python to Rust in order to support production-scale launch of dozens of satellites per mission.
- » Acquired requirements, architected, implemented, and delivered software to control the EGSE rack supporting flatsat testing, factory, and launch operations and processing.
- » Provided software support during integration and mission rehearsal test campaigns for prototype and production satellites, directed failure investigations when issues occurred with telemetry streaming to cloud-based data stores.
- » Shouldered systems administration responsibilities for the EGSE racks, implementing LDAP-based authentication scheme ensuring users only had access to hosts to which they were explicitly permitted.

### LeoStella | Flight Software // June 2019 - May 2021

Contract Engineer (2019-2020) | Avionics Test Engineer (2020-2021)

Tested and validated new Flight Software features and flight operations. Verified new software met customer requirements via integration testing across virtualized and physical test beds. Administered continuous integration/testing pipelines.

#### // Key Achievements

- » Stood up an automated software integration pipeline to execute tests nightly, identifying software regressions. Developed Docker-based testing pipelines for continuous testing.
- » Worked with production engineers to vend test libraries, unifying test software for flight software and vehicle integration and test.

### SpaceX | Avionics // May 2016 - Dec 2016, Aug 2018 - Dec 2018

Systems Integration & Firmware Intern, Starlink Test Associate Engineer

Designed ground support, test, and production equipment for the Dragon 2 vehicle before writing code to automate installation of firmware on devices for production. Completed build of Hardware-in-loop (HIL/HITL) fixtures for Starlink.

#### // Key Achievements

- » Built the first Dragon 2 Support Rack, modified design to simpler production and usage.
- » Created modular system test device on an Intel NUC computer with NI DAQ hardware. Wrote python scripts to use the system to automate the process of bare-metal bringup.
- » Supported component selection for production line Satellite RF test racks.
- » Completed build design and notes for Hardware-in-the-Loop fixtures for Starlink.

### Formula SAE Racing Team // Aug 2013 - July 2018

Project Manager (2017-2018) | Electrical Engineer (2014-2017)

Managed team's finances, design timelines, 50+ people building two cars. Designed and manufactured electronics and wrote software for race car dashboards and sensors.

#### // Key Achievements

- » Implemented full hardware and software stacks for Raspberry Pi dashboard.
- » Developed team's first ever Electric Cars, with two other electrical engineers.
- » Drew schematics and layouts for custom PCB for an embedded Dashboard.
- » Incorporated a DAQ to log vehicle body sensors and interface with the ECU via CAN.