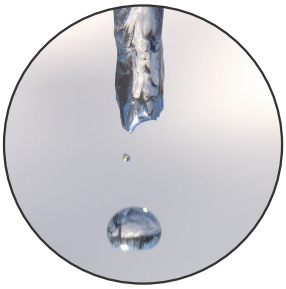


Rick **Stoner**

Data Scientist

Dillsburg, Pennsylvania

RLStoner@Gmail.com

KC3DRU | rick-stoner-39b1821

Software developer working in the data science field focusing on data acquisition and preparation, process automation, and data visualization.

- Employment

Data Scientist

Harrisburg, PA

Capital Blue Cross

2020-01-01 –> Now

- Created a corporate R-Shiny dashboard with supporting tables and extract code for monitoring the progression of the COVID-19 impact on the company and our members. Included are cost and case rate metrics, member demographics, health risk scores, and geospatial maps showing case clusters. Once vaccines became available, new pages were added for monitoring the injections including acceptance rates and heat maps showing areas with hesitation. The dashboard's metrics were used throughout the company, from the board-of-directors to operational teams.
- Presented tailored COVID-19 metrics for employer groups showing how their employees were impacted and how the group's claims experience compares to other employers in the same product lines.
- Stood up a new RStudio server (open source edition) on a Linux virtual machine. Created Bash scripts for managing code deployments from Subversion as well as scripts for daily data extracts. The server played a crucial role for improved productivity once we moved to a fully-remote team.
- Mentored co-workers on Linux fundamentals and using RStudio in a server environment. Shared code snippets and coding guidelines to improve the new team member onboarding process. Assisted team members with improving their code performance, process automation, and SQL efficiency.
- Designed and built a parameter-driven process to identify candidates for emerging high-cost drug treatments. Financial risk assessments highlight the potential risk to the company if customers begin using the treatments.
- Built PowerShell scripts to set up and execute the Optum Symmetry software.
- Currently installing and configuring the Optum software packages Symmetry and Impact Pro. Created PowerShell scripts to automate resetting date parameters and clean target folder with each run.
- Starting a new project to migrate to Rstudio Professional edition including their Connect and Package Manager servers.

Data Analyst

Harrisburg, PA

Capital Blue Cross

2015-01-01 –> 2019-12-31

- Wrote processes to monitor vendor performance to reduce medical expenses. Performance data led to contracts being renegotiated, renewed, or terminated.
- Created an application that derives a hospital's geographic catch basin based on the number of services performed and members' home locations. Evaluations of a facility's cost performance use the number of members in that facility's basin as part of the metric.
- Authored a Tableau dashboard for Capital's Special Investigations Unit to track changes in opioid use by county. Opioid drug doses are converted to a common measurement standard for comparison using the FDA's Morphine Equivalent Dosage calculations. The dashboard allows the SIU to drill down to individual cases for review or produce summary statistics for government compliance programs.
- Tapped to be one of two developers assigned to Capital's Data Breach Rapid Response Team. After one of the Capital subsidiaries was breached, we were recruited to quickly assess the member, provider, and producer databases. We built new infrastructure to cleanse and house member, provider, and producer data, and tracked who was impacted, when they were notified, and responses received.
- Built an application that tags members for medical cohorts. Results from this application are compared to the vendor's results which helps validate the vendor's performance and invoice accuracy.
- Created a new geospatial data dimension for the Enterprise Data Warehouse, opening up a new avenue of analysis for the company. The dimension tracks where individual members, households, and medical providers are located and who occupied a given location over time.
- Developed a weekly monitor for the Special Investigations Unit to identify claims that are statistical outliers. Early identification of outliers allows the SIU to intercede for data corrections or potential fraud. Over $1 million was recovered by the monitor in the first year.
- Designed scripts for the analytics team to increase accuracy and efficiency of impact assessments. The new workflow scripts cut turnaround time by 50%.
- Developed an automated premium balancing process to monitor for data integrity problems.
- Prototyped the first foray into geospatial analysis for the company. Geocoded the member households. Extracted Medically Underserviced Area designations from US Health and Human Services. Pulled TIGER shape datasets for Pennsylvania townships and transformed them to Netezza geospatial data objects using Well-Known-Text. Merged the member locations, HHS MUA definitions, and township boundaries to identify members living in underserviced areas. Statistical tests showed that members living in MUAs have a higher Emergency Room utilization verses members not living in an MUA. I volunteered to present my work at an analytics forum for various Blue Cross Blue Shield companies.
- Designed a new data-mart and Extract-Transform-Load process to support our stop-loss insurance business.
- Began a multi-year project to extract data related to the national Blue Cross - Blue Shield consumer class action suit. Worked with the legal team and external legal consultants on data extract formats and data quality.
- Consulted on a project for importing HL7 data from various hospital facilities into Capital's data warehouse
- Primary data exchange coordinator for Capital when another Blue Cross - Blue Shield detects a data breach.
- Built a new R application that compares the current flu season to the prior five seasons. Seasonal case trends are graphed by time, age, gender, market segment, and geographic area. The company's actuarial staff considers the seasonal information when setting corporate reserves.

Data Engineer

Harrisburg, PA

Capital Blue Cross

2013-01-01 –> 2014-12-31

- Wrote data mapping instructions for extracting data from our warehouse to feed to a new startup venture.
- Advocated for the adoption of Ataccama's DQ Analyzer for researching data quality issues. Conducted several training sessions to get new users up to speed with the tool.
- Reengineered a Java process to call an Optum (WSDL) web service for calculating a claim's Diagnostic Related Group assignment.
- Wrote scripts to monitor and report on the daily ETL schedule's progress. Included balancing checks to verify data integrity.
- Wrote scripts to automate Capital's test database refreshes. The enhancements removed manual steps, added data sampling, and captured table meta-data to handle shape changes.
- Created a process to query the central scheduling software's database to dynamically generate dependency graphs for the team's daily schedule. The graph included dependencies within and between subsystems.
- Generated graphs showing the output of Netezza Advanced Analytics' decision trees that determined the likelihood of a member being readmitted after a congestive heart failure stay. Previously the analytics package only produced text descriptions of the decision tree paths.
- Began experimenting with Netezza's Advanced Analytics geospatial functions. Generated heatmaps showing the geospatial distribution of members and claim dollars.

Software Engineer

Harrisburg, PA

Capital Blue Cross

2007-02-12 –> 2012-12-31

- Wrote test automation scripts to facilitate the team's migration from DB2 to Netezza. The scripts handled comparisons between DB2 and Netezza for parallel test validation.
- Created a process to compare data coming from Oracle and being loaded to Netezza.
- Initiated a group to establish Informatica coding standards and procedures as the department migrated the ETL process to Informatica workflows.
- Modified a Java process to pull SQL code from Business Objects to facilitate performing impact assessments on existing reports.
- Volunteered to work in a group experimenting with Netezza's predictive modeling features. Built a decision tree for predicting which members might be readmitted after a congestive heart failure stay.
- Developed a new process to automate testing Informatica user-defined functions.
- Recruited for a focus group to prototype improvements for handling special provider contracts. The old SAS process ran for five days. The new process, using Netezza SQL, ran inside the appliance, added new features, and completed in four hours.
- Gave several presentations to the internal Informatica user group on various workflow techniques.
- Implemented a new fact and dimension to the Enterprise Data Warehouse consisting of invoice and billing information.
- Installed a new version of Optum's Diagnostic Related Grouping software. Modified Capital's Java/JNI interface to work with the new C code.
- Created a new handshake methodology between the internal warehouse scheduling tool (Java based) and the corporate Tidal package allowing for smoother integration with the source system.
- Joined the Data Warehousing team to support their Java application.
- Used mind mapping software to document the team's end-of-month process. Identified, scripted, and automated all manual intervention steps making the process more efficient and simpler to support.
- Established a standard for how a job failure was documented, how the problem was investigated, and what solution was used to get the schedule restarted.
- Prepared and conducted an internal multi-day class on Unix Fundamentals and Scripting. Twenty-eight developers attended the sessions.
- Created a Java Server Faces application allowing users to enter parameters for generating member identification cards.
- Revamped a Java batch application to use JNDI for configuration options and added Message Queue (MQ Series) calls to internal services. Switched the build and compile process to use Maven.
- Created new Unix scripts for code deployment.

Systems Architect

Mechanicsburg, PA

Bookspan

2004-08-01 –> 2007-02-10

- Facilitated migrating Bookspan's data center from Bertlesmann in Indianapolis, Indiana to Time Customer Service in Tampa, Florida. Received the Bookspan President's Award for the work performed on this effort. Saved $2 million per year in cost reductions.
- Served as Bookspan's Liaison for the TCS data center.
- Consulted as one of the architects for Bookspan's conversion to a Service Oriented Architecture design. Developed and peer reviewed XML service contracts for service providers and consumers on the SOA infrastructure. Created prototypes for both consumer applications and service providers.
- Performed architecture reviews of software changes before implementation.

Information Services Consultant

Mechanicsburg, PA

Bookspan

1997-08-01 –> 2004-08-01

- Served as team architect for the marketing and finance areas. Architectural review of changes in the finance / marketing areas and coordinating changes with other areas. Member of the coding standards committee.
- Technical lead for Bookspan's Year-2000 project. Vendor Y2K readiness tracking, system rollover testing coordination, rollover weekend planning. Scheduling applications for code renovation and testing.
- Developed an application testing strategy for an OS/390 operating system upgrade.

Senior Programmer Analyst

Mechanicsburg, PA

Bookspan

1990-01-01 –> 1997-08-01

- Supported financial applications – A/P, G/L, Sales Reporting, Vertex Tax, Author Royalties
- Developed high-speed optical character recognition (OCR) applications and data entry applications.

Programmer Analyst

Mechanicsburg, PA

Bookspan

1987-09-01 –> 1989-12-31

- Supported general financial packages – general ledger, accounts payable, and accounts receivable.
- Supported various applications written in REXX, APL-DI, SQL

- Education

Millersville University of Pennsylvania — *Millersville, PA*

Bachelor of Science in Business Administration — *September 1981 –> December 1985*

- Skills

Programming Languages

SQL; Bash; Batch; R-Base; R-Tidyverse; Java; Shiny; Informatica; Python; Node-RED; C; PowerShell; COBOL; REXX; JCL; ISPF Dialog; SAS

Markup Languages

HTML; Markdown; Rmarkdown; YAML; Mermaid; DOT

Data Interchange

XML; CSV (delimited); Well-Known-Text (WKT); JSON; Fixed Layout; HL7; IBM MQ-Series; Mosquitto

Version Control

Subversion; Endevor; Git

Databases and DBMS (Database Management Systems)

Netezza; DB2; Oracle; SQLServer; MySQL; MariaDB; SQLite; Sybase

Text Editors and IDEs (Integrated Development Environment)

Rstudio; Netbeans; Eclipse; IntelliJ; VI; Kate; UltraEdit; PowerShell ISE; Aginity; Squirrel SQL; PyCharm

Operating Systems

Linux (Debian / Ubuntu / RHEL / Raspian); AIX; MS Windows; IBM zOS; IBM MVS

Single Board Computers

Arduino UNO; Arduino Nano; Raspberry Pi 0-W; Raspberry Pi 3B; Raspberry Pi 4; ESP32

Geospatial Coordinate Systems

Universal Transverse Mercator; Latitude and Longitude; Maidenhead Grid Square

- Honors and Achievements

Eagle Scout — *Boy Scouts of America*

Highest rank in the Boy Scouts of America — *1981*

Bookspan Presidential Award — *Bookspan, Inc.*

Technical lead for moving the Bookspan data center from Indianapolis, IN to Tampa, FL — *2005*

Excel Gold Award — *Capital Blue Cross*

For creating the corporate COVID-19 dashboard — *2020-06*

Excel Silver Award — *Capital Blue Cross*

Re-engineering Project Work — *2016-01*

Excel Bronze Award — *Capital Blue Cross*

Presenting tailored COVID-19 statistics for large employer consortiums — *2020-06*

General Class Radio Operator — *Fed. Communications Comm.*

One of about 6,000 in Pennsylvania — *2016*

- Community Service

Harrisburg Java User Group

Steering Committee — *2005 –> 2007*

Boy Scouts of America

Cub Scout Den Leader — *2007 –> 2010*

Boy Scouts of America

Assistant Scoutmaster — *2011 –> 2017*

South Mountain Radio Amateurs

Emergency Radio Operator — *2014 –> Now*

South Mountain Radio Amateurs

Board of Directors — *2019 –> 2020*

Franklin Township Community Emergency Response Team (CERT)

Team Member — *2019 –> Now*

- Presentations

Serving Raspberry Pi in Your Ham Shack — *South Mountain Radio Amateurs*

Adding Raspberry Pis to control your radio and perform other tasks at your radio station. — *2021*

Programming Arduino Boards — *South Mountain Radio Amateurs*

Building a power meter to measure radio output using an Arduino board — *2021*

NVIS Antennas for Emergency Communication — *South Mountain Radio Amateurs*

How to make a Near Vertical Incident Skywave antenna for emergency communication — *2020*

Introductions to Arduino Single Board Computers — *South Mountain Radio Amateurs*

Overview of single board computers for electronics projects — *2020*

COVID-19 Trends — *Capital Blue Cross*

Custom presentations for several employer consortiums on how COVID-19 is impacting their members. — *2020*

Antenna Modeling Software — *South Mountain Radio Amateurs*

Using MMANA to model an antenna prototype and Python to measure and plot the actual performance — *2020*

Vendor Contract Performance — *Capital Blue Cross*

Measuring member performance before and after engaging with a condition management vendor — *2019*

Solar Power for QRP Operations — *South Mountain Radio Amateurs*

How to use solar power for low-power (QRP) field excursions — *2019*

Software for Propagation Prediction — *South Mountain Radio Amateurs*

Websites and software packages to assist with predicting atmospheric propagation for radio waves — *2019*

Android Applications for Ham Radio — *South Mountain Radio Amateurs*

Handy applications for various radio related tasks — *2019*

Introduction to C and the Arduino IDE — *SMRA Special Projects Team*

C programming concepts and using the Arduino IDE to compile, debug, and upload code to the board — *2018*

Cost of Care – Surgical Center Analysis — *Capital Blue Cross*

Review of surgical centers and patterns driving cost increases — *2018*

Unix Tools for Impact Assessments — *Capital Blue Cross*

How to use grep and other tools for scanning source code repositories — *2017*

Using Subverson for Version Control — *Capital Blue Cross*

Using Subversion for managing changes to SAS code — *2016*

Using Linux in Your Ham Shack — *South Mountain Radio Amateurs*

How to use Linux Software for Ham Radio tasks — *2016*

SQL ETL Techniques for SAS — *Capital Blue Cross*

SQL tips for doing ETL processes with SAS — *2016*

Geospatial Concepts — *Capital Blue Cross*

Overview of geospatial data for data analysis — *2016*

Emergency Department Utilization in Medically Underserviced Areas — *Blues Analytics Group*

Using geospatial tools to tag members living in HHS MUAs and test their emergency department utilization. — *2016*

Data Profiling using Atacama DQ Analyzer — *Capital Blue Cross*
Using DQ Analyzer to get an overview of new datasets — *2014*

Visualizing Flu Cases Using Maps — *Capital Blue Cross*
Prototype of how to show the progression of flu cases throughout Capital's service area — *2013*

SQL Concepts — *Capital Blue Cross*
Move merging and filtering steps into the Netezza appliance using better SQL techniques — *2012*

Introduction to Aginity for Netezza — *Capital Blue Cross*
Introduction to writing SQL in Aginity (subsequently converted to an internal guide, with tips and shortcuts for new users) — *2012*

Informatica Workflow Event Triggers — *Capital Blue Cross*
Using event triggers in workflows to change execution flow — *2011*

Emailing Worksheets via Informatica — *Capital Blue Cross*
Creating and e-mailing worksheets using Informatica — *2011*

Using Subversion with Informatica — *Capital Blue Cross*
Techniques to use version control software for Informatica workflows — *2010*

Using Parallel Pipelines in Informatica — *Capital Blue Cross*
Improving throughput rates by using parallel processing in workflows — *2010*

Unix Scripting — *Capital Blue Cross*
Introduction to Unix concepts and scripting for automation — *2009*

Testing with DbFit — *Harrisburg Java User Group*
A utility allowing less technical staff to enter test cases — *2009*

Creating JUnit Tests — *Capital Blue Cross*
Introduction to using unit testing for Java — *2009*

Java Coding Techniques — *Capital Blue Cross*
General introduction to Java — *2008*

Accessing DB2 with SQLJ — *Harrisburg Java User Group*
Using DB2's bind process with Java — *2007*

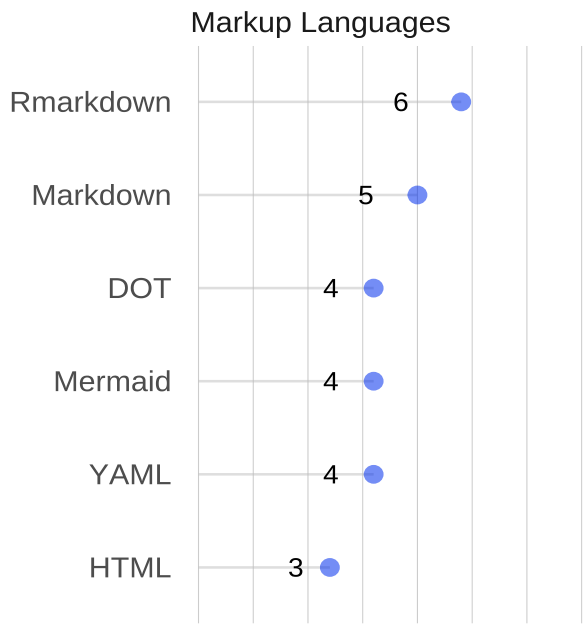
- Personal Projects

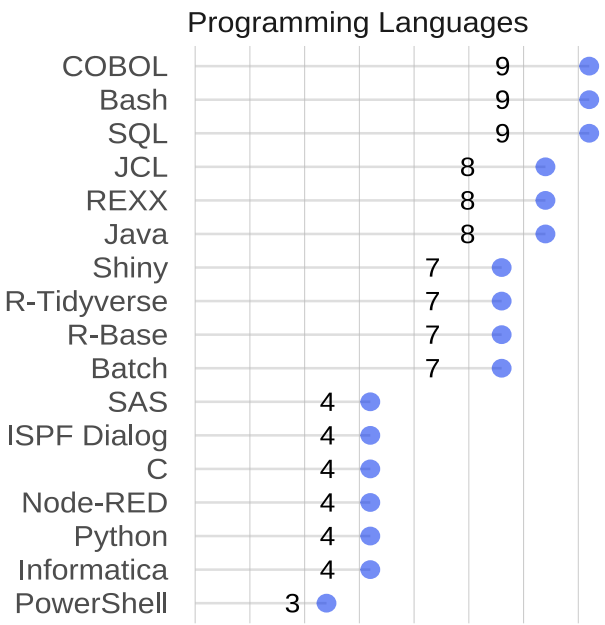
Project	Description
Azimuth and Elevation Display	An Arduino UNO board uses a six degrees of freedom board to measure the current orientation and displays the board's angle of elevation and azimuth. The project is mounted on a satellite antenna boom to inform the operator which direction the antenna is pointing. Used for making amateur radio satellite contacts.
Smart RF Power Meter	An Arduino Nano board-based project measures the frequency power emitted by a radio and displays the value in watts. Used as a diagnostic tool for ham radios.
Barometric Pressure and Temperature Dashboard	An ESP32 board uses an environmental sensor board to read the current temperature and barometric pressure. The values are transmitted from a remote location to a receiving station using LoRa (Long Range) radio signals. The receiving board unpacks the message payload and publishes it to a Mosquitto queue. A Node-RED workflow subscribes to the queue and posts the values on a dashboard.
Headless Radio Control Computer	A Raspberry Pi 4 controls the frequency, power level, and signal mode of some of my ham radios. It runs digital mode software, allowing digital contacts with other stations around the world. The Pi is accessed via my network and allows me to control the station from anywhere within reach of the network.

- Technical Self-Assessments

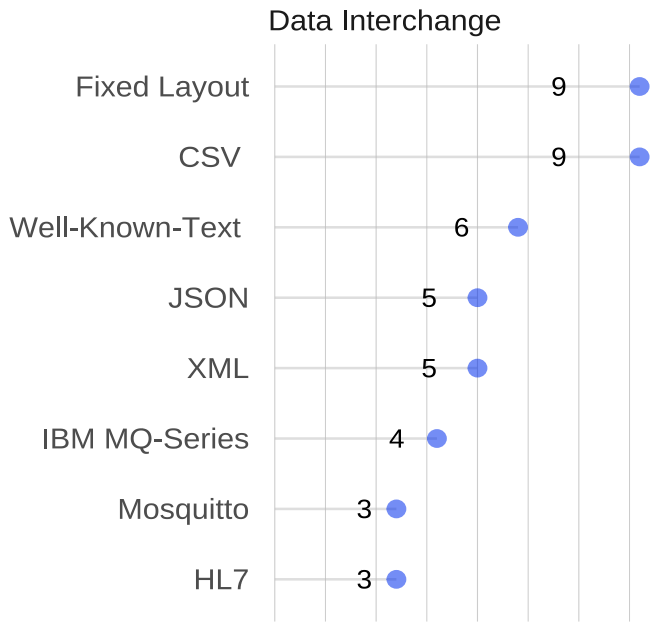
Rating my skills in various technologies on a scale of 1 to 10.

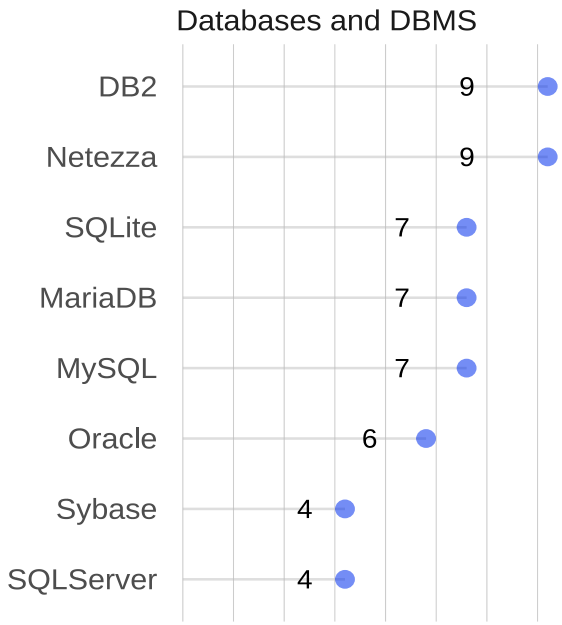
Technical Skills Self-Assessment



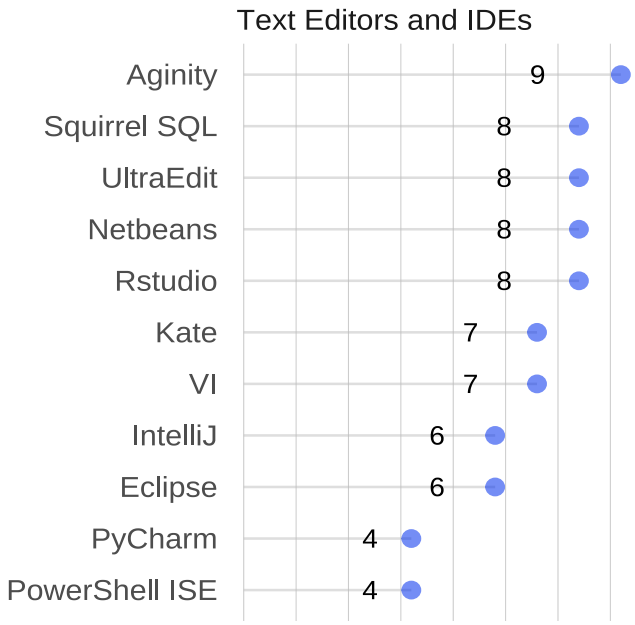


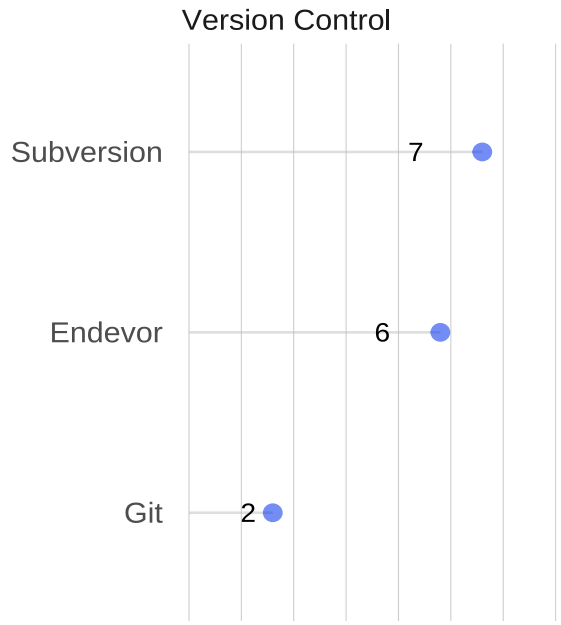
Technical Skills Self-Assessment



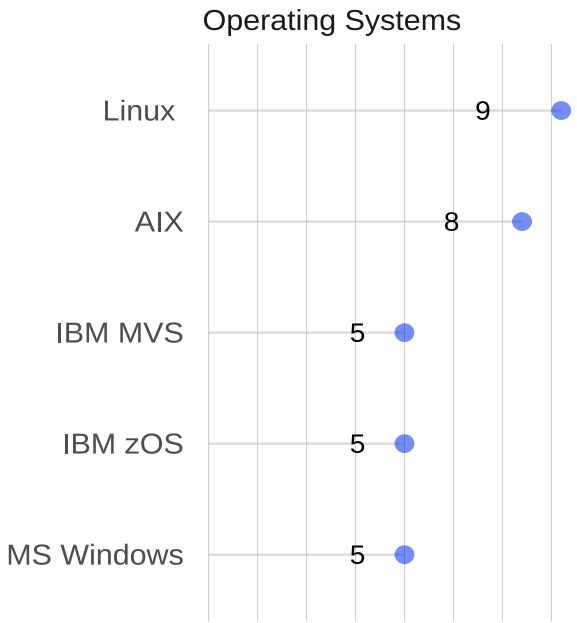


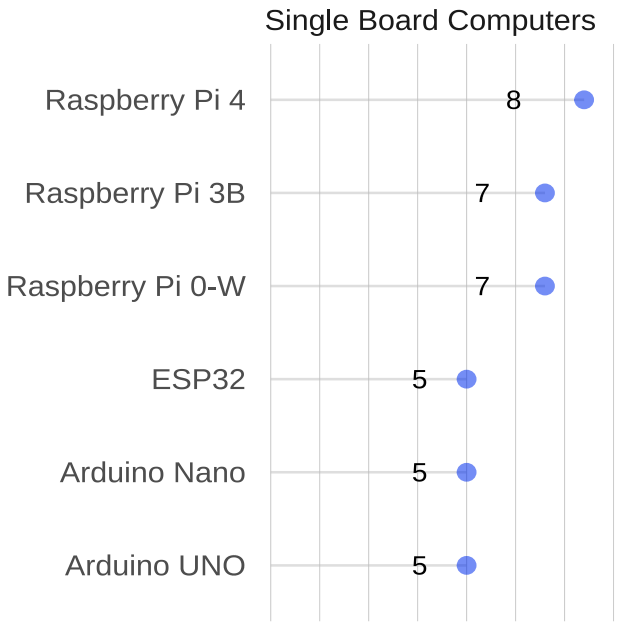
Technical Skills Self-Assessment





Technical Skills Self-Assessment





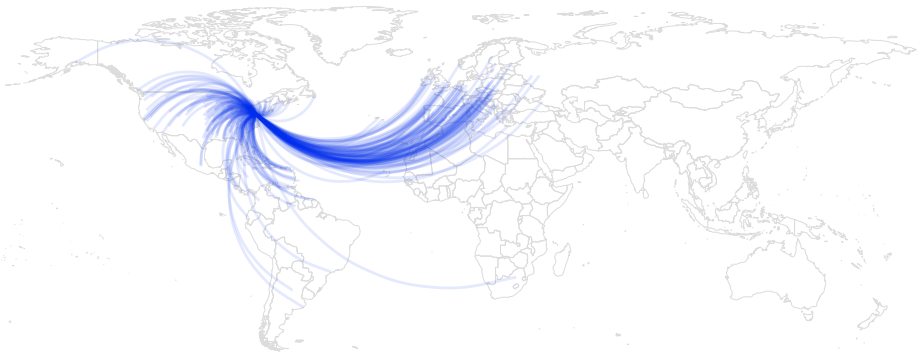
- Talking to the world - One QSO at a time

The amateur radio hobby provides a rich source of geospatial data points. The hobby involves using your radio equipment to talk to other operators throughout the world via various modes of communication: voice, Morse Code, or numerous digital modes. Each successful contact is called a QSO. In the past, operators would exchange custom postcards with the date and signal quality of the chat. Often operators would use a large map and pushpins to mark their successes. Today, we mostly use electronic logs.

I used my electronic contact log's data to generate the map below which shows the locations of operators that I successfully spoke with using a voice mode.

KC3DRU Contact Log

Direct voice contacts using single sideband mode



Data source: ADIF logbook with Maidenhead Grid Square coordinates transformed to Lat. / Lon. via Python.

- About this CV

This curriculum vitae was generated in RMarkdown using Mitchell O'Hara-Wild's library "Vitae" *(https://pkg.mitchelloharawild.com/vitae/)* and a couple LaTeX statements here and there to help with pagination. Bryan Jenks has a great video showing how to get started with Mitchell's library *(https://www.youtube.com/watch?v=cMlRAiQUdD8)*. I pulled in the custom LaTeX class file from Lorena Abad's GitHub *(https://github.com/loreabad6/R-CV)*.

My 'Twenty Second' brief resume is available in my GitHub repo `https://github.com/KC3DRU/CV/blob/main/Resume20Seconds.pdf` .