

Timothy S. Gilbert

7836 N Jensen Dr, Tucson, AZ 85741
(520) 395-5640 | tsgilbert@arizona.edu
[My Portfolio](#) | [GitHub](#)

PROFESSIONAL EXPERIENCE

IT Support Computing Analyst I-III

University of Arizona, [VGS Project](#): Tucson, AZ

March 2022–Present / Promoted to Analyst III in Nov of 2022 / Full-Time

- Developed and deployed R Shiny applications for research data workflows, including data ingestion, management, manipulation, quality assurance, and interactive visualizations
- Designed ETL pipelines for historical ecological datasets, parsing Excel files into structured SQL tables with QA/QC protocols built in
- Maintained local and server-side databases (Microsoft SQL Server, SQLite), automated SQL scripts for data quality and reporting
- Collaborated with federal agencies, universities and other non-profits on environmental data collection and technical support including maintenance of field data collection devices
- Led and mentored a student data entry team, standardizing QA protocols for high-volume historical data transcription
- Supported cross-platform software testing (Windows, iOS, Android) in a C# environment using Visual Studio, Visual Studio Code; tracked bugs and fixes via Jira
- Supported agile development workflows and sprint tasks across technical and field teams; led daily scrum meetings
- Assisted in preparing quarterly reports for federal funding sources, documenting project progress, deliverables, and achievements

Rangeland Specialist

University of Arizona, Gila County Cooperative Extension ([Rangeland Monitoring](#)): Tucson, AZ

Oct 2017–Apr 2022 / Full-Time, Seasonal (Sept–Apr)

- Conducted long-term vegetation monitoring across rangeland sites using VGS protocols (line intercept, plant diversity, cover, biomass production)
- Provided testing feedback and field validation for VGS platform development, improving usability and data accuracy, eventually leading to working as a VGS team member as an Analyst I
- Supported ecological data collection and pasture assessments within the Tonto National Forest in coordination with federal land managers
- Trained USFS employees and local ranchers in standardized plant data collection methods; facilitated collaborative monitoring efforts
- Managed data entry for historical data
- Led seasonal field staff in vegetation monitoring efforts

Lead Aquatics Field Ecologist

*National Ecological Observatory Network ([NEON](#)): Tucson, AZ
March 2018–Nov 2021 / Full-Time, Seasonal (Mar-Dec)*

- Led field sampling campaigns across aquatic and terrestrial systems, including water chemistry, invertebrates, flora, and fauna
- Collected water quality metrics, microbial DNA, stream discharge, electrofishing data, and sediment profiles
- Executed various terrestrial protocols: mammal trapping (tagging, biometrics, sample collection), ground beetle surveys, vegetation structure assessments, and litter trap deployment
- Developed R scripts for QA/QC of ecological datasets after field work, improving data integrity and workflow efficiency
- Contributed to NEON's Standard Operating Procedures (SOPs)
- Conducted fieldwork at Sycamore Creek, Santa Rita Experimental Range, and Jornada Experimental Range across AZ and NM
- Collected and managed ecological data for federally funded longitudinal studies, ensuring adherence to NEON's standardized protocols

Fuels Monitoring Technician

*Great Basin Institute ([GBI](#)) / Bureau of Land Management: Ely, NV
Jun 2017–Oct 2017 / Full-Time*

- Conducted vegetation and fuels assessments using Assessment, Inventory, and Monitoring (AIM) protocols
- Delivered field data for fire ecology and fuels management programs across BLM-managed lands

OTHER EMPLOYMENT

Floor Manager/Server/Busser/Dish Washer

*Miss Saigon Bar and Grill: Tucson, AZ
Jan 2008–Mar 2015 / Full-Time*

- Managed payroll, vendor relations, and inventory systems
- Led operations and trained staff in a high-traffic dining environment

Lead Server

*Sushi on Oracle: Tucson, AZ
Jan 2015–May 2017 / Part-Time*

- Delivered attentive customer service and managed custom orders
- Multitasked smooth guest experience while multitasking in fast-paced environment

EDUCATION

University of Arizona: Bachelor of Science

Natural Resources: Wildlife Conservation & Management

Graduated May 2017

PROGRAMMING PROJECTS

NCAA Recruitment Trend Visualizer

Scrapes recruiting data from multiple sports sites (e.g., 247Sports, On3) to visualize Big 12 football and basketball class rankings. Custom R scripts handle data extraction, cleaning, and plotting, with interactive controls for sport, class year, and team. Built in Shiny with Leaflet for dynamic geospatial visualizations.

- **Code:** [GitHub](#)
- **App:** [Live App](#)

VGS Batch Importer

An ETL pipeline built in R to ingest historical Excel datasheets into a SQLite database. Supports multiple vegetation protocols (e.g., point ground cover, line intercept, nested frequency) across transects and sites. The app parses data using key identifiers (e.g., SiteID), organizes metadata, and inserts structured records into a local [VGS](#) database. QA/QC checks are embedded to prevent corrupt or incomplete data from being ingested.

- **Code:** [GitHub](#)
- **App:** Local-only Shiny app

NEON Small Mammal Tracker

Interactive Shiny app visualizing small mammal capture data from the National Ecological Observatory Network ([NEON](#)). Users select location and date range to compare capture volumes across NEON sites. The app processes individual ID tags to rank sites by total captures, revealing spatial and temporal trends in mammal activity.

- **Code:** [GitHub](#)
- **Live App:** [App](#)

Electron-Bundled Shiny Desktop App

A standalone desktop tool combining a Shiny UI with an embedded SQL database. Designed for offline use by research teams and field data loggers, it enables structured data entry, updates, and retrieval without cloud dependencies. Built with Electron and R-Portable, the app runs as a self-contained Windows executable, no R installation required.

- **Code:** [GitHub](#)
 - **App:** *Local-only Shiny app*
-

PROFESSIONAL REFERENCES

Donald E Merson

Data Scientist Manager III

Web Applications Developer IV - VGS project (University of Arizona)

Tucson, AZ

Telephone: 520 282 1188

Email: dmerson@arizona.edu

Charles Perry

Data Scientist Manager III

P.I. for VGS project (University of Arizona)

Tucson, AZ

Telephone: 517 648 6746

Email: cperry@arizona.edu

Abe Karam

Domain Manager Domain 14 (Arizona and New Mexico)

National Ecological Observatory Network

Tucson, AZ (Sycamore Creek)

Telephone: 541 840 0066

Email: akaram@battelleecology.org

Rachel More-Hla

Limnology and Aquatic Instrumentation Technician Specialist

National Ecological Observatory Network

Tucson, AZ (Sycamore Creek)

Telephone: 520 444 8409

Email: ram5@arizona.edu

Katie Matthiesen

Lead Fauna Technician

National Ecological Observatory Network

Tucson, AZ (Santa Rita Experimental Range, Jornada Experimental Range)

Telephone: 602 525 6625

Email: kjm19@arizona.edu