

Timothy S. Gilbert

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[My Portfolio](#) | [GitHub](#)

EDUCATION

University of Arizona: Bachelor of Science
Natural Resources: Wildlife Conservation & Management
Graduated May 2017

PROFESSIONAL EXPERIENCE

IT Computing Analyst III

University of Arizona, [VGS](#) Project: Tucson, AZ
Nov 2022–Present

- Develop and deploy R Shiny applications with SQL backends for research data workflows
- Design batch importers for historical ecological datasets (Excel to SQL ingestion with QA/QC)
- Collaborate with federal agencies (USFS, NRCS, BLM, BIA) on environmental data training and support
- Maintain local and server-side databases (Microsoft SQL Server, SQLite); automate SQL scripts
- Lead and mentor a team of student workers in high-volume historical data transcription, standardizing QA protocols to achieve high accuracy
- Test software builds (Windows, iOS, Android) using Visual Studio and report bugs/fixes
- Lead data entry team of students in historical data transcription

IT Support Computing Analyst I

University of Arizona, [VGS](#) Project: Tucson, AZ
Mar 2022–Nov 2022

- Supported cross-platform VGS development and troubleshooting
- Conducted user training and data sync demonstrations
- Wrote and maintained R-based tools for database manipulation and field reporting
- Executed high-volume data entry of historical ecological records and applied automated QA processes to ensure accuracy and consistency across databases

Lead Aquatics Field Ecologist

National Ecological Observatory Network ([NEON](#)): Tucson, AZ

Feb 2021–Nov 2021; Oct 2019–Sept 2020

- Led field sampling campaigns across aquatic and terrestrial systems (water, invertebrates, vegetation, mammals)
- Collected water chemistry, microbial DNA, stream discharge, electrofishing, sediment profiles
- Conducted terrestrial protocols: mammal trapping (tagging, biometrics, samples), ground beetles, vegetation structure, litter traps
- Worked at Sycamore Creek, Santa Rita Experimental Range, Jornada Experimental Range

Rangeland Specialist

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

Oct 2017–Apr 2022

- Conducted long-term vegetation monitoring using VGS tools: line intercept, plant diversity, cover, biomass production
- Provided feedback and testing support on VGS platform development
- Supported vegetation data collection for pastures within Tonto National Forest

Field Ecologist

National Ecological Observatory Network ([NEON](#)): Tucson, AZ

Mar 2019–Oct 2019; Mar 2018–Dec 2018

- Collected vegetation, aquatic, and mammal data across experimental range sites in AZ and NM
- Executed standardized ecological protocols on federally funded longitudinal studies

Fuels Monitoring Technician

Great Basin Institute ([GBI](#)) / Bureau of Land Management: Ely, NV

Jun 2017–Oct 2017

- Conducted AIM-based vegetation and fuels assessments
- Delivered field data for fire ecology and fuels management programs

ADDITIONAL EMPLOYMENT

Miss Saigon Bar and Grill ([Floor Manager, Server, Busser, Dish Washer](#)): Tucson, AZ

Jan 2008–Mar 2015

- Managed payroll, vendor relations, and inventory systems

- Led operations and trained staff in a high-traffic dining environment

Sushi on Oracle (Lead Server): Tucson, AZ

Jan 2015–May 2017

- Delivered attentive customer service and managed custom orders
 - Multitasked efficiently under pressure while ensuring smooth guest experience
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PROGRAMMING EXPERIENCE

- **VGS Batch Importer App**
Automates Excel ingestion into SQL databases with built-in QA. [GitHub](#)
 - **NEON Small Mammal Tracker**
Visualizes capture data, statistics, and generates species heat maps.
[GitHub](#) | [App](#)
 - **NEON Water Chemistry Viewer**
Dual-axis comparison of analytes with correlation stats and ML predictions.
[GitHub](#) | [App](#)
 - **Electron-Bundled Shiny App**
Desktop R Shiny tool with embedded SQL database. [GitHub](#)
 - **Recruitment Trend Visualizer**
Web scraping + ggplot visualizations of NCAA recruiting trends. [GitHub](#)
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SKILLS & QUALIFICATIONS

Field & Ecological Expertise

- **Aquatic sampling:** water chemistry, sediment, algae, dissolved gases, microbial DNA, electrofishing, flow rate
- **Entomology surveys:** pitfall/CO₂ traps, insect sorting to order/family
- **Small mammal surveys:** trapping, identification, tagging, sampling blood/hair/feces
- **Soil surveys:** microbial sampling, horizon profiles, structure assessment, pH core sampling
- **Vegetation surveys:** plant identification (Sonoran Desert, Sky Islands, sagebrush ecosystems), structure measurements, cover, biomass, phenology, diversity

Technical & Data

- **Agile Collaboration Tools:** Experienced in JIRA and Slack for sprint-based project tracking, bug reporting, team communication, and daily task management within Agile development environments
- **App Hosting:** Deployed apps on shiny.io, AWS, DigitalOcean; Electron bundling
- **Data collection:** VGS, ArcMap, GPS, Survey123

- **ETL pipelines:** Excel to SQL ingestion, database integration
- **GIS:** ArcMap, Garmin GPS; data collection via Survey123, Field Maps
- **Python:** Web scraping, data visualization
- **QA/QC:** automation, data validation, workflow testing
- **R programming:** Shiny, ggplot2, rvest, tidyverse, DBI, RSQLite, plotly
- **SQL:** Microsoft SQL Server, SQLite, query optimization, schema design
- **Statistics:** Regression modeling, statistical testing, feature extraction, machine learning (k-NN, decision forests)
- **Version Control:** Proficient with Git and GitHub; manage collaborative projects, track code changes, and publish open-source tools

Other Skills & Collaborative Experience

- 4x4 field driving
- Basic graphic layout for reports and info sheets
- Collaboration with USDA, BLM, NEON, NRCS, BIA, Great Basin National Park
- Cross-functional collaboration: field teams, developers, ecologists
- Experience presenting outcomes to leadership and interdisciplinary teams
- Google Workspace: Docs, Sheets, Drive
- IT training and support
- Manual and tablet-based data entry
- Microsoft Office Suite: Excel, Word, PowerPoint, Outlook
- QA/QC training and support for field teams
- R Markdown & dashboard design
- Stakeholder outreach: training for agencies and academic partners
- Technical documentation, metadata writing, and user support

PROFESSIONAL REFERENCES:

Donald E Merson

Data Scientist Manager III

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

Tucson, AZ

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Charles Perry

Data Scientist Manager III

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

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Abe Karam

Domain Manager Domain 14 (Arizona and New Mexico)

National Ecological Observatory Network

Tucson, AZ (Sycamore Creek)

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Rachel More-Hla

Limnology and Aquatic Instrumentation Technician Specialist

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Katie Matthiesen

Lead Fauna Technician

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