GREGORY S. FITZGERALD, PhD

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github.com/gregfitzgerald

SUMMARY

Data analyst and neuroscientist with 15 years turning large, complex datasets into clear, trustworthy answers. First-author publication and published applied-machine-learning work (Raman spectroscopy for disease screening). Builds reproducible pipelines in R, Python, and SQL; conducted a systematic quantitative meta-analysis identifying a 2.5x preclinical-to-clinical effect-size gap. Six years of statistics teaching; strong at translating findings for non-technical stakeholders.

TECHNICAL SKILLS

Programming & Analysis: R (tidyverse, lme4, metafor, Quarto) | Python (pandas, NumPy, scikit-learn, Matplotlib) | SQL & Relational Databases (SQLite) | Advanced Excel

Methods: Statistical Modeling (regression, mixed-effects, Bayesian) | Meta-Analysis & Systematic Review | Applied Machine Learning | Data Visualization | Experimental Design | Hypothesis Testing

Tools & Operations: Git/GitHub | Reporting & Dashboards (Power BI, Tableau) | Documentation & Data Governance | Project Management | Microsoft Office Suite

EXPERIENCE

Research Software Developer | Metascience Observatory *2025 - present*

- Contribute to a research collaboration with NIH/NIST researcher Daniel Elton, assessing research replicability across scientific fields.
- Built open-source tooling for large-scale evidence synthesis, automated figure/data extraction and reference-library cleaning (github.com/gregfitzgerald: figure-extractor, meta-reference-toolkit), plus reproducible R pipelines extending my dissertation meta-analysis methods.

Doctoral Research Scientist | SUNY Albany *2016 - 2026*

- Built automated analysis pipelines in R, Python, and SQL to synthesize the preclinical literature into a quantitative meta-analysis, surfacing a systematic preclinical-to-clinical effect-size gap that informed translational research strategy (preprint, 2026).
- Managed a multi-year research program end to end: experimental design, data collection, statistical modeling, and peer-reviewed reporting (CNS Neuroscience & Therapeutics, 2023).
- Primary instructor for undergraduate statistics (six years, 2 institutions) with excellent student evaluations; explained complex quantitative concepts to introductory students.
- Mentored 16 researchers; coordinated timelines, training, and deliverables across concurrent projects.

Lab Technician & Manager | Cold Spring Harbor Laboratory *2011 - 2016*

- Contributing author on a high-impact publication (*Cell*, 2017): processed and quality-controlled whole-brain imaging datasets used to map neural architecture across conditions.
- Promoted to Manager: ran operations including budgeting, procurement, vendor relations, inventory, and a large animal-research program; coordinated across postdoctoral teams.

EDUCATION

PhD in Behavioral Neuroscience | SUNY Albany | 2026

B.A. in Neuroscience, Magna Cum Laude | Queens College, CUNY | 2013

SELECTED PROJECTS

- **Nimble** (github.com/gregfitzgerald/nimble): SQLite application for coordinating inventory and operations across a biology laboratory; relational schema and workflows designed from firsthand lab-management experience.
- **Active Reader** (github.com/gregfitzgerald/active-reader): open-source web application architected for server-side (backend) deployment; gates PDF reading behind comprehension questions and auto-generates the gated content through an LLM pipeline.