

# TAMARA DOWIS

## SOFTWARE ENGINEER

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Software engineer who builds backend systems, APIs, and data pipelines in Python, TypeScript, and Ruby. I like working close to the mechanics of a system, especially when something breaks and I need to trace it back to the underlying behavior. I'm comfortable owning work from early exploration through implementation, including design tradeoffs, testing, and iteration as requirements evolve. Before software, I worked internationally in education and community programs, which shaped how I collaborate, communicate, and design systems that hold up under real-world constraints.

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### TECHNICAL SKILLS

**Languages:** Python, TypeScript, Ruby, JavaScript

• **Tooling:** Git, Postman, Swagger, Jira, Confluence

**Testing:** RSpec, Jest, Capybara

• **Development Practices:** TDD, debugging, iterative design

**Caching and Performance:** Redis, node-cache, pagination, analytics queries

**Backend and APIs:** Node.js, Express, Ruby on Rails, REST API design, authentication

**Data and Databases:** PostgreSQL, SQL, relational data modeling, ETL patterns

**DevOps and Automation:** Docker, GitHub Actions, CI pipelines, structured logging, monitoring basics

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### PROJECTS

#### govbot (Open States scrapers, data pipelines)

**Python | GitHub Actions | Docker | JSON | ETL | Structured Logging | Data Validation**

Open-source tooling that addresses a core civic data problem: legislative data is fragmented, difficult to track over time, and often dependent on centralized platforms that may be shut down or abandoned.

- Built automated ETL pipelines that transform Open States legislative data into normalized, append-only JSON artifacts for auditing and long-term analysis.
- Designed reproducible, containerized workflows across jurisdictions and sessions, enabling consistent data ingestion and integration.
- Implemented Dockerized pipelines and GitHub Actions schedules to support repeatable deployments and reliable updates.
- Collaborated with cross-functional civic tech contributors to refine data models and support analytics and public-facing applications.

#### SciScope

**Node.js | Express | PostgreSQL | Objection.js | Redis | Jest | Winston | Passport | JWT | node-cache**

A RESTful API for science news aggregation with user authentication, caching, and analytics

- Designed and built a RESTful API using Express.js and PostgreSQL to support authenticated users, caching, and analytics.
- Designed relational data schema and implemented advanced SQL queries with Objection.js, including pagination and analytics.
- Implemented secure authentication and authorization with Passport.js and JWT tokens, including session management and role-based access controls for user data protection.

#### Adventure Life API

**Node.js | TypeScript | Express | PostgreSQL | Knex | Objection.js | Postman | Jest | Swagger**

REST API exposing structured, relational city data via modular, testable endpoints

- Built RESTful API with TypeScript and Express, applying the DAO pattern and modular service design to refactor an existing codebase into a clean, scalable backend system.
  - Modeled complex city relationships using PostgreSQL and Objection.js, optimizing queries for fast and reliable data access.
  - Wrote Swagger documentation and a full Jest test suite to ensure endpoint accuracy and support long-term developer usability.
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### HIGHLIGHTED PROFESSIONAL EXPERIENCE

**Science Educator** | International & U.S. Schools

07/2016 - Present

• Designed and delivered inclusive science curricula in IB and project-based environments in Mexico, China, and the U.S., helping students build analytical thinking and real-world problem-solving skills.

• Analyzed student performance data, tested instructional approaches, and iterated on materials based on outcomes, mirroring iterative development and feedback cycles.

**Project Manager** | SolarAid

07/2008 - 06/2009

• Led a solar energy initiative that distributed over 500,000 lights across Kenya, improving daily life for more than 2 million people.

• Managed a 28-person team across franchise operations and a local manufacturing plant, overseeing planning, logistics, and reporting.

• Worked directly with local communities to understand constraints, translate needs into workable plans, and build systems that supported reliable delivery and long-term adoption.

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### EDUCATION & CERTIFICATIONS

**AWS Certified Cloud Practitioner** | Amazon Web Services

07/2025

**Back End Engineering Certificate** | Turing School of Software Design

06/2022

**Bachelor of Science with Honors in Biology Ed** | Kennesaw State University

05/2015