Tamara Dowis | Software Engineer (Backend, Data Pipelines, CI/CD)

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I'm the person who lights up when something breaks, because it's an opportunity to learn and figure out how to fix something new. Before learning to code, I worked around the world in roles that taught me to listen closely, adapt quickly, and understand how systems behave in the real world. I taught science in Mexico and China and supported community programs in India and Kenya. I currently contribute to civic tech projects, develop pipelines and APIs that transform unstructured data into clean, usable formats, and build backend systems in Python, TypeScript, and Ruby.

TECHNICAL SKILLS

Languages: Python, TypeScript, Ruby, JavaScript
Testing: RSpec, Jest, Capybara
Caching and Performance: Redis, node-cache, pagination, analytics queries
Data and Databases: PostgreSQL, SQL, relational data modeling, ETL patterns
Backend and APIs: Node.js, Express, Ruby on Rails, REST API design, authentication
DevOps and Automation: Docker, GitHub Actions, CI pipelines, structured logging, monitoring basics

- **Tooling**: Git, Postman, Swagger, Jira, Confluence
- **AI Integrated Development:** design, debugging, iteration

PROJECTS

govbot (Windy Civi Toolkit, 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 pipelines transforming federal and state legislative data into standardized, append-only JSON artifacts for long term analysis without reliance on a single hosted service.
- Designed workflows around reproducibility and decentralization, using timestamped artifacts, structured logs, and deterministic runs so datasets can be independently cloned, verified, and queried by others.
- Standardized ETL patterns across jurisdictions and legislative sessions, reducing duplicated effort for civic groups, researchers, and educators who lack the resources to maintain custom data infrastructure.
- Implemented Dockerized runs and GitHub Actions schedules to support transparent, repeatable data updates and lower the barrier for contributors to operate or extend the system.
- Collaborated with civic technologists to refine data structures and tooling to support analytics, tagging, and public-facing use.

SciScope
Node.js | Express | PostgreSQL | Objection.js | Redis | Jest | Winston | Passport | JWT | node-cache
A scalable RESTful API for science news aggregation with user authentication, caching, and analytics

- Architected scalable RESTful API with Express.js and PostgreSQL, implementing modular service architecture and external API integration patterns for science news aggregation.
- 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 REST 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 a legacy 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.

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 feedback-driven development 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.

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