

TAMARA DOWIS

SOFTWARE ENGINEER

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ABOUT

Lifelong learner and former science educator turned software engineer, driven by curiosity, collaboration, and a touch of geeky enthusiasm. I thrive on solving tough, meaningful problems — the kind that require deep thinking and persistence, and often lead to a good old-fashioned debugging victory dance. Resourceful and self-directed, I transitioned to software development to build tools that empower people and positively impact communities.

TECHNICAL SKILLS

- Ruby on Rails
- SQL / PostgreSQL
- Objection.js / Knex.js
- Authentication (JWT, Passport, BCrypt)
- Test-Driven Development (RSpec, Capybara, Jest)
- Node.js / Express
- REST APIs
- OOP / Design Patterns
- JavaScript / TypeScript
- API Docs (Swagger, Postman)
- Git & GitHub (GitHub Actions / CI/CD)
- Caching (Redis, node-cache, Kaminari)
- Team Collaboration & Project Ownership

PROJECTS

SciScope

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

A science news aggregator API with bookmarking and analytics features.

- Designed a modular RESTful API integrating external science news via the NewsAPI.
- Implemented user-defined bookmarks and bookmark groups with full CRUD functionality.
- Built caching with node-cache to reduce redundant API calls and improve performance.
- Built advanced SQL queries for analytics and added pagination for scalable data access.
- Automated tests and workflows using Jest and GitHub Actions (CI/CD).

Artisan Marketplace

Ruby on Rails | PostgreSQL | RSpec | Capybara | SimpleCov | FactoryBot | BCrypt | Kaminari

A multi-role e-commerce platform enabling admins and artisans to manage products and discounts.

- Developed role-based authentication and authorization with a single login path.
- Built admin-facing tools to create, edit, and deactivate artisan accounts.
- Implemented artisan dashboards with full product and discount management.
- Applied complex Active Record queries and scopes for real-time discount logic.
- Used namespacing, advanced routing, and thorough RSpec/Capybara testing for maintainability.

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.

- Refactored a legacy codebase using the DAO pattern to separate concerns and improve maintainability.
- Built RESTful endpoints to serve complex internal data with Objection.js and advanced SQL joins.
- Integrated Swagger for comprehensive API docs and Postman collections for endpoint validation.

SELECT PROFESSIONAL EXPERIENCE

Science Educator | Shen Wai International School - American School Foundation - SCHS - EK-12 07/2016 - Present

- Designed and delivered inclusive science curricula in International Baccalaureate (IB) and project-based learning environments, fostering critical thinking and global citizenship.
- Currently working as a remote contractor, teaching science to middle and high school students while actively developing software engineering expertise.

Project Manager | SolarAid

07/2008 - 06/2009

- Initiated and led a solar access program responsible for the distribution of over 500,000 solar lights, resulting in a positive impact on the lives of more than 2 million individuals.
- Managed a 28-person team across franchise and manufacturing operations.

EDUCATION

Back End Engineering Certificate | Turing School of Software Design

06/2022

Selective, rigorous 7-month full-time ACCET-accredited program with 1500+ hours of hands-on project work.

Bachelor of Science With Honors in Biology Ed | Kennesaw State University

05/2015