# UMA HUGGINS

## Data Engineer

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## SUMMARY

Data engineer who builds pipelines, databases and web apps for public health, survey and retail data.

## EXPERIENCE

**OnTopic Inc. (ctzn.pub)** — Data Engineer · New York, NY · 2020 – Present

Primary engineer on a statistics publishing platform built on federal health and social survey data.

- Merged 159 releases of the Pew American Trends Panel (2014–2025), whose variable names and codes shifted over time, into one validated 1.13M-row longitudinal dataset with auditable mappings and documented coverage gaps.
- Combined independent public sources into unified datasets: CDC health estimates, a deprivation index, Census and election data for 32,000 ZIP code areas (ZCTAs); county election returns 1868–2024 merged from two academic archives, with 68 defective source records found and flagged.
- Built a replication pipeline that recomputes published estimates from raw data and checks each value against the original; reproduced an NCHS Data Brief on NHANES within 0.05 percentage points.
- Built the statistics API on Google Cloud Run, returning weighted estimates and regressions that account for survey design (strata, clusters, replicate weights); benchmarked R and Python implementations and chose Python (17.8s vs 21.9s).
- Built the data infrastructure (PostgreSQL, a DuckDB/DuckLake lakehouse on S3-compatible storage) and the public web application with an AI query interface; kept cloud costs to about $6 a month by scaling services to zero when idle.

**Indigo Home** — Contract Data Engineer · New York, NY · Nov 2024 – Present

Home textiles design and wholesale company.

- Built and operate monthly ingestion pipelines tracking about 7,900 products across 22 bedding retailers, with automated validation of every run.
- Used AI to classify product attributes and standardized about 3,100 inconsistent color labels into 13 families, turning raw listings into month-over-month assortment trends.
- Built an internal product lifecycle management (PLM) application over a 14,600-image archive, with AI image editing and line sheets for wholesale buyers.

**Data Analyst and Developer, Freelance** — New York, NY · 2015 – 2020

- Research data analysis for NYU faculty (Consumer Behavior Lab; Prof. Vishal Singh): experimental design, data cleaning and reproducible analysis in R and Python.
- Built data visualization and web applications for clients.

## SELECTED PROJECTS

- **The American Political Almanac** — Every U.S. presidential election since 1868 by county (116,909 records); the build fails if any total doesn't match its source. Next.js, D3.
- **ctzn-geo** — Map library for U.S. census geographies, European regions and world countries, with vector tiles (PMTiles) streamed to MapLibre.
- **CTZN Viz** — With Vishal Singh: 34-figure gallery and 50-item chart component registry; built the theme system and 13 chart types. TanStack Charts.
- **chatFRED** — Chat interface over 4,955 FRED economic series that draws charts mid-conversation. Vercel AI SDK.
- **College Ledger** — 6,273 college profile pages joining College Scorecard, IPEDS and Wikidata; static Next.js site built from Parquet.
- **Health of America's ZIP Codes** — ZIP-level atlas of CDC PLACES, deprivation and ACS data; built the politics layer and map redesign.
- **The Reversal** — U.S. overdose deaths from CDC surveillance data; Python build with checksums and integrity checks that fail on bad data.

## TECHNICAL SKILLS

- **Languages:** Python, SQL, TypeScript, JavaScript, R, HTML/CSS
- **Frameworks:** React, Next.js, Node.js, FastAPI, Tailwind, D3, MapLibre, TanStack Charts, pandas, polars, statsmodels
- **Databases and storage:** PostgreSQL (Neon), DuckDB/DuckLake, BigQuery, Snowflake, Redis, Parquet, S3 object storage
- **Infrastructure and testing:** Docker, Google Cloud Run, Vercel, Git, GitHub Actions, pytest, Vitest, Playwright, Puppeteer
- **AI:** OpenAI, Anthropic and Gemini APIs, Vercel AI SDK, AI coding agents

## EDUCATION

**Fullstack Academy, Grace Hopper Program** — Software Engineering · 2018

**New York University** — B.A., Economics and Psychology · 2014