WADe Project — User Guide

DaVi: Ontology-Driven Semantic Data Visualization — User Guide

Practical instructions to install, run and use the DaVi system. This document is written in a concise, scholarly style with screenshots and example commands for a quick hands-on experience.

Contents

1.

Authors

Nastasiu Stefan

Lazurca Samuel-Ionut

Version

1.0 — User Guide

Repository

Project repository (source & code)

Live demo

Open live demo

2. Overview

The DaVi system provides a data-agnostic, ontology-driven interface to explore RDF datasets. It supports:

- Interactive graph exploration (2D/3D force graphs).
- Analytics builder with dynamic filters read from the meta-ontology.
- Customizable queries over RDF data.

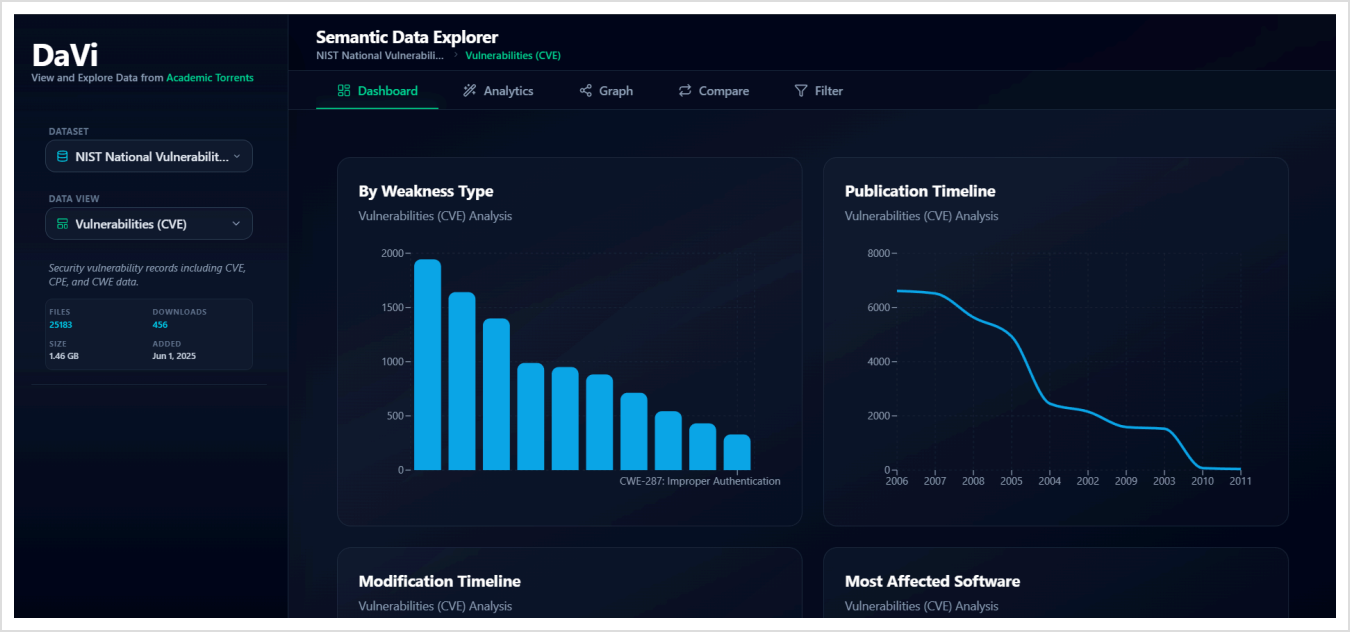

Figure 1 — DaVi dashboard (presets).

3. Quickstart — run DaVi locally (6 steps)

This quickstart assumes you have `git`, `docker` and `node` installed.

1. Clone the repository and change directory:

```
git clone https://github.com/SamuelLazurca/CrawlWebbers-WADE-Project.git
cd CrawlWebbers-WADE-Project
```

2. Download the apache-jena-fuseki archive and extract it:

```
wget https://archive.apache.org/dist/jena/binaries/apache-jena-fuseki-5.6
tar -xvf apache-jena-fuseki-5.6.0.tar.gz
```

3. You can load a small RDF sample into Fuseki using the interface at `localhost:3030` (TTL files from the `results/` folder):
4. Set up the following environment variables in a `.env` file in the backend folder:

```
FUSEKI_ENDPOINT=http://localhost:3030/davi/sparql
API_KEY=your_api_key_here
FRONTEND_URL=http://localhost:5173
```

   Set up the following environment variables in a `.env` file in the frontend folder:

```
VITE_API_URL=http://localhost:8000/api/v1
VITE_API_KEY=your_api_key_here
```

5. Start the backend (FastAPI) in a virtualenv:

```
# Python venv approach
cd rest-api
python -m venv .venv
source .venv/bin/activate
pip install -r requirements.txt
uvicorn main:app --reload --port 8000
```

6. Start the frontend (React + Vite):

```
cd spa
npm install
npm run dev -- --port 5173
```

7. Open the UI: http://localhost:5173 and connect to the backend API at `http://localhost:8000`.

4. SWAGGER

4.1. How to use swagger

The backend API is documented using OpenAPI (Swagger). You can access the interactive documentation at `http://localhost:8000/docs`. Here you can test endpoints directly from the browser.

5. UI Walkthrough

This section explains the main panels and their common interactions.

1. **Dataset selector** — choose a dataset

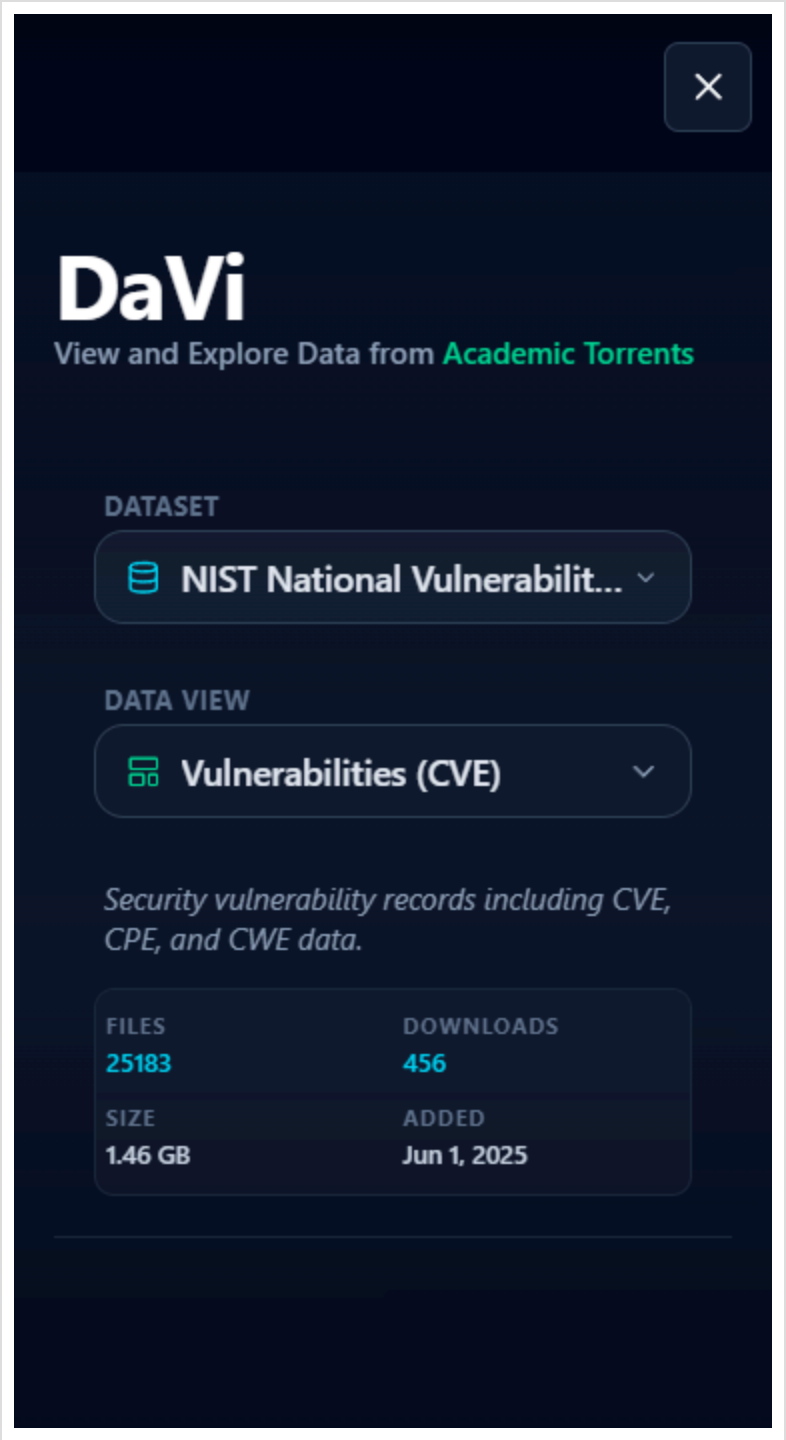

Figure 2 — Sidebar.

2. **Analytics Builder** — dynamically generated controls based on the `davi-meta` ontology.

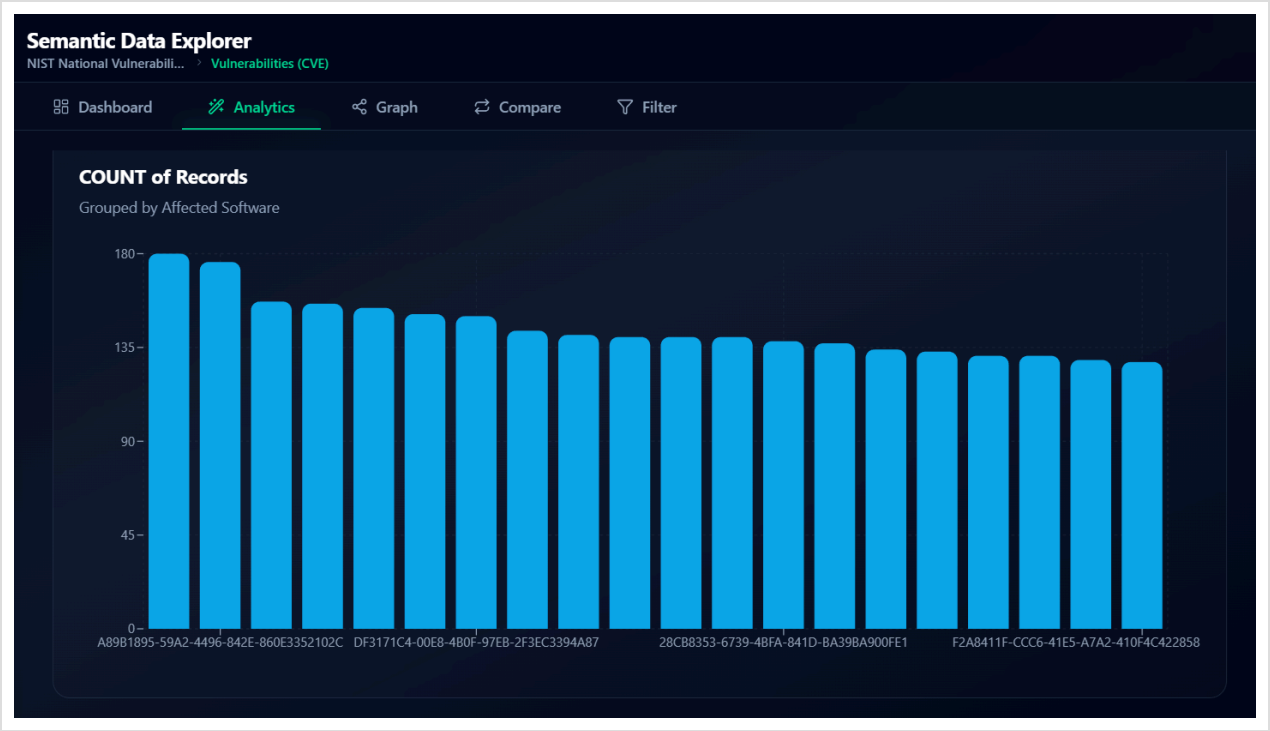

Figure 3 — Analytics Builder.

3. **Graph** — expand nodes, focus, and inspect triples; double-click to open the resource detail panel.

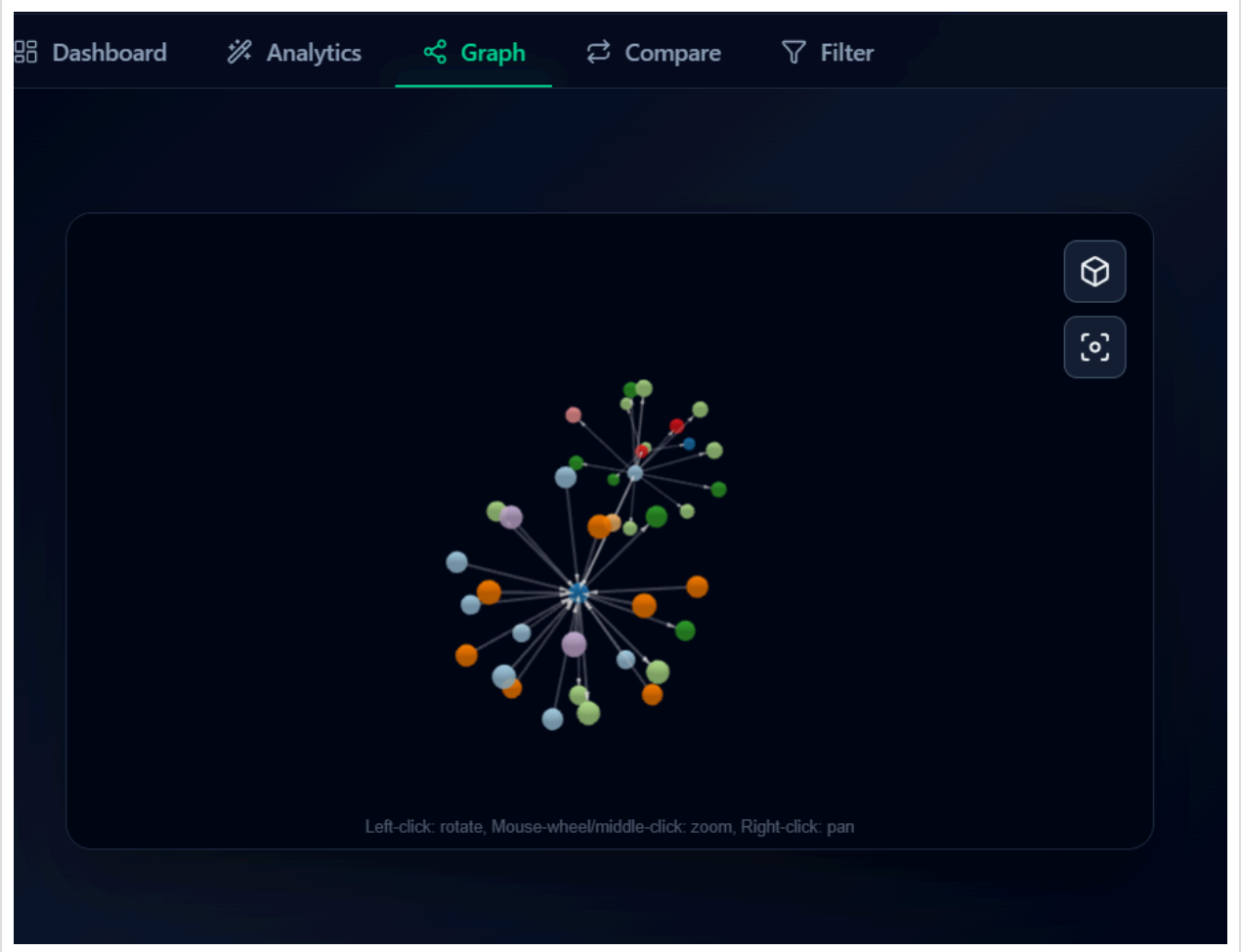

Figure 4 — 3D Graph Builder.

4. **Filter Data**

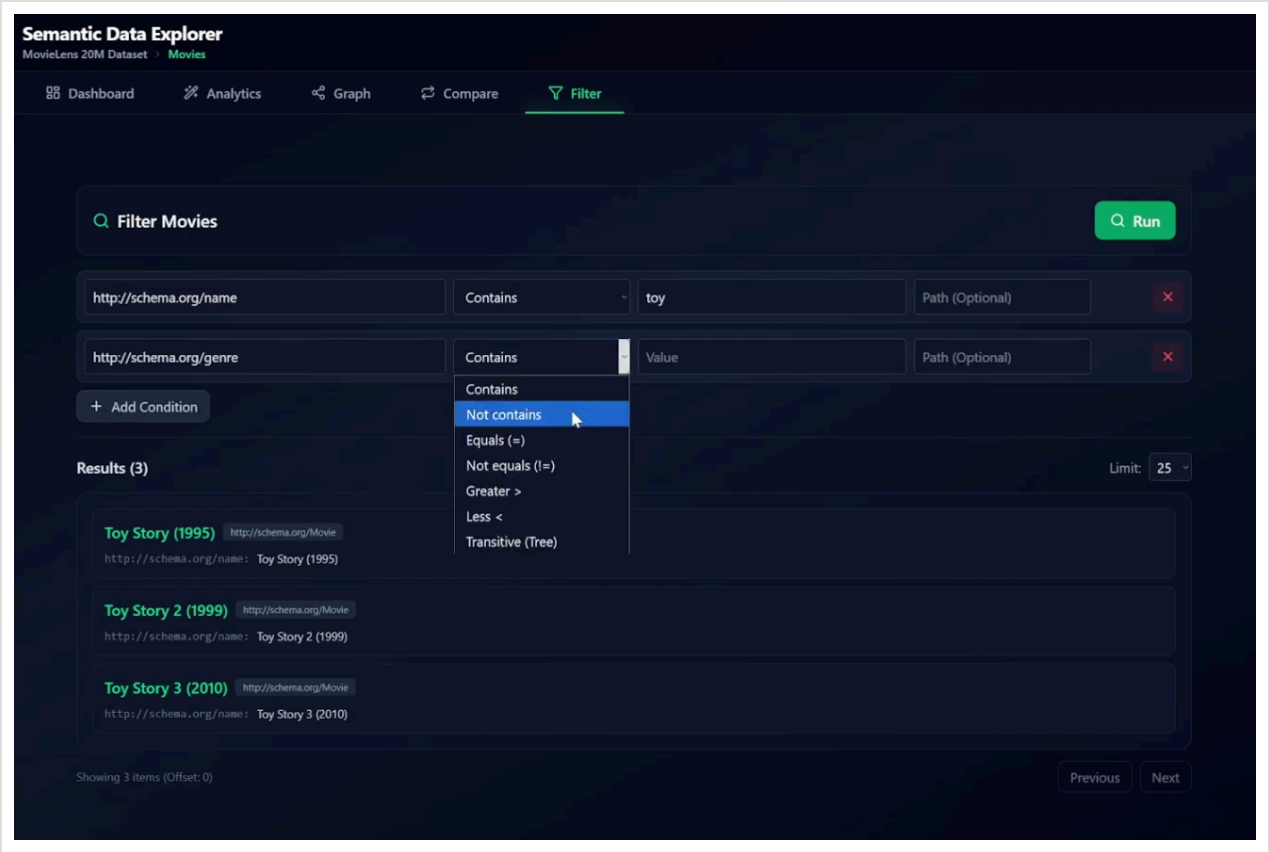

Figure 5 — Filter Data.

For issues or further customizations, open an issue in the repository or ask the authors.

6. References