

PostgreSQL for Innovative Vector Search

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Agenda

Focus is DEMOS!

We will do a few slides, then some show and tell (sorry no milk and cookies), and finally some imagination games

1. Current Hybrid Search
2. Why PostgreSQL
3. Some demos
4. Some fun after party games

THE Main Point

**1. PostgreSQL allows
more than just
Sparse And Dense
Vector Search**

Always start with PostgreSQL then, if and when you need more, look to other solutions.

- Mark Twain

**2. Do as much as
you can on on
the server**

Keep operations as close to the data as possible and minimize data over the network.

This is how you defeat your enemies

- Sun Tzu, The Art of War

**To be a good person, study SQL deeply,
the rest is commentary**

- Rabbi Akiva

PostgreSQL let's you move beyond

Hybrid = sparse + dense vectors

Demo Time

- 1. Dense**
- 2. Simple Hybrid**
- 3. Spatial Hybrid**

Other Hybrids

1. JSON
2. HStore (Key Value)
3. Graph
4. XML
5. Time Series
6. Cube
7. EDW

Other helpful AI/ML ext.

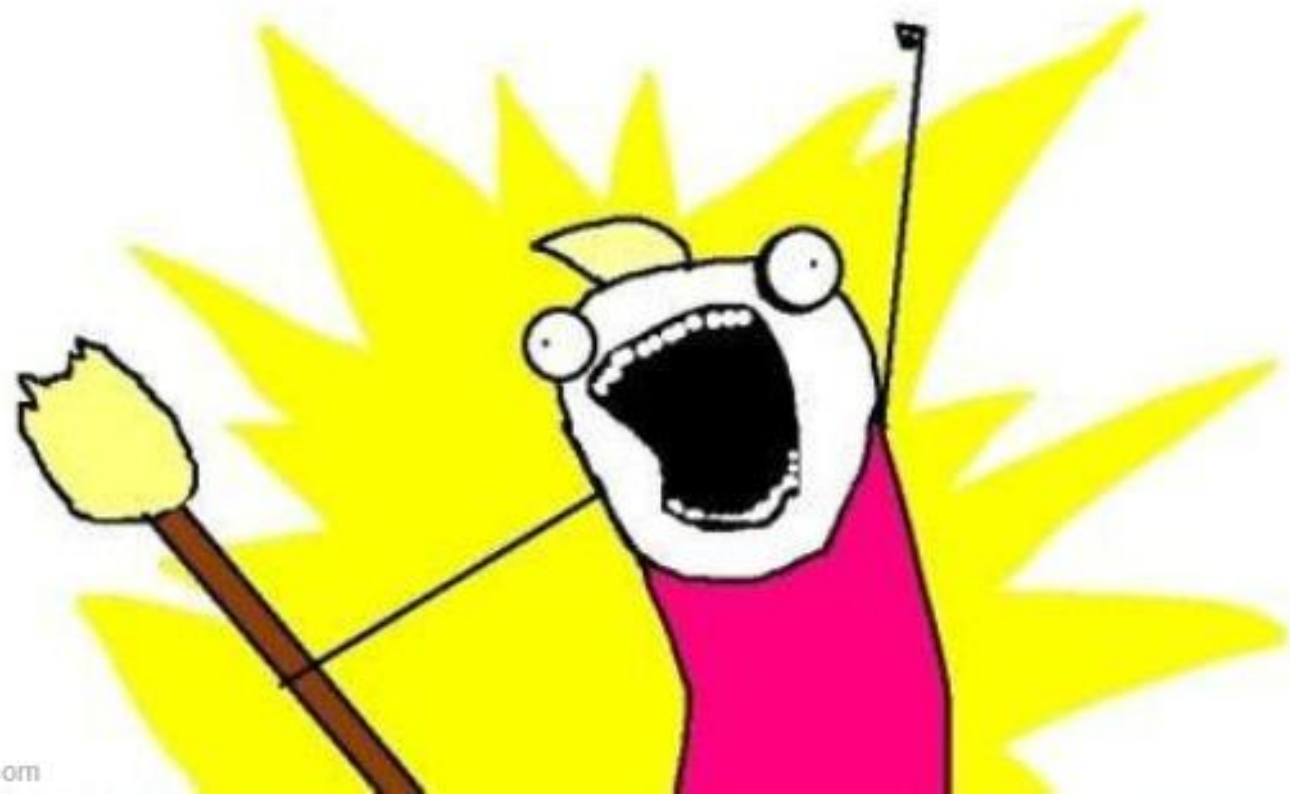
1. **Pgvector**
2. **Pgvector scale**
3. **PL/Python and PL/R**
4. **postgresml**
5. **MadLib**
6. **Pgai**
7. **Pg_gpt**
8. **Pg_duckdb**
9. **Greenplum and Citus**
10. **Tablefunc**
11. **Pg_parquet**
12. **Apache Arrow Adapter**
13. **pg-Strom - use GPU for analysis**
14. **ParadeDB**

Big Take Homes

1. This is fun
2. This is powerful
3. We just scratched the surface
4. You can mix and match any of the things we showed today

START WITH POSTGRESQL

POSTGRES ALL THE THINGS!



Fin

<http://bit.ly/40g5Pil>

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