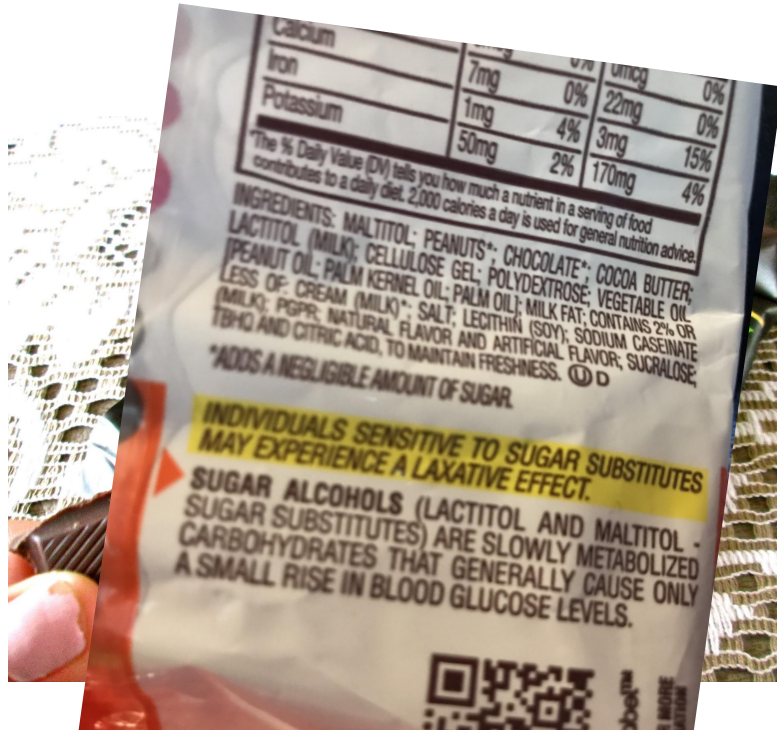# The Sugar-free Chocolate of
Databases

Matt Butrovich
Carnegie Mellon University
#1 Ranked CMU-DB PhD Student

Eating Smarter

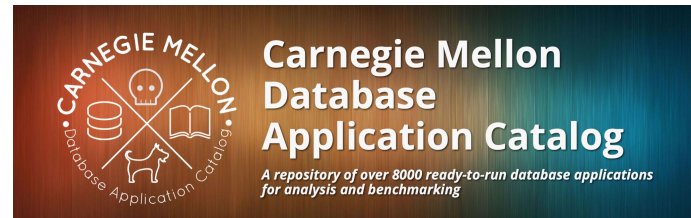Food labels in the US are wild.

Staring at DBMS Traces

Zero Calorie Queries

- 1,462,909 queries from various workloads…
- CMDBAC data set shows that they are 27% of all queries!

Carnegie Mellon Database Application Catalog

A repository of over 8000 ready-to-run database applications for analysis and benchmarking

- Look in your SQL logs and you'll see these queries over and over again!

DBMS Proxies to the Rescue

- PgBouncer, RDS Proxy, ProxySQL
- Features:
  - Connection pooling
  - Query rewriting
  - Sharding
  - Query caching

What I Do

- **Tigger** is a proxy that pushes Application Layer (i.e., L7) DBMS protocol logic into kernel-space via eBPF.
- Perform things like transaction pooling and workload replication without ever going to user-space. **User-bypass**.

I am graduating in early 2024.
I will be expensive to hire.

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