

We Are Boring

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AI is enjoying a renaissance, with popular press and major corporations agog at the promise of a variety of smart, AI-based applications, from self-driving cars to automated digital assistants to household robots to household gadgets that learn our behaviors and preferences.

Despite all of these applications revolving around data, the database community appears to be content to cede these domains to our AI colleagues. This is absurdly short-sighted, and just as with the world-wide web, and (nearly) big data, we risk being an also-ran in the most significant trend in computer science in the coming decade. These smart systems will change the way we commute, work, and play, and the database community ought to be thinking about how we can contribute rather than sitting on the sidelines optimizing our elephants.

I propose that we as a community rally around one or more “grand challenges” related to building interactive systems that learn, to revitalize the field much as self-driving cars has done for robotics. Some example challenges include:

- *Build a dialog-based query system that can answer complex, semantically ambiguous natural language queries, achieving accuracy on par with what a human could do looking at the same database.*
- *Build a system that can incorporate real time data streams from 10,000 or more moving vehicles, including multiple high-resolution camera feeds, high-rate LIDAR data, as well as data about vehicle location and dynamics, and incorporate it into a real-time database reflect where cars, bike, shops, streetlights, signs, etc. are and what their current state is.*
- *Build a system that can monitor every website on the Internet and automatically highlight new topics, trends, and anomalies – without requiring a query at all – again doing as well or better as a team of trained curators.*

To be fair, in each of these areas, there’s have been limited efforts to build such interfaces, but they are at the fringes of the community, rather than a central effort that unites us.

Being application focused will attract attention to our research, excite students, funding agencies, and prospective employers. Continuing to build boring relational systems will leave us where we are: a “mature” field that continues to polish an already rather round ball.