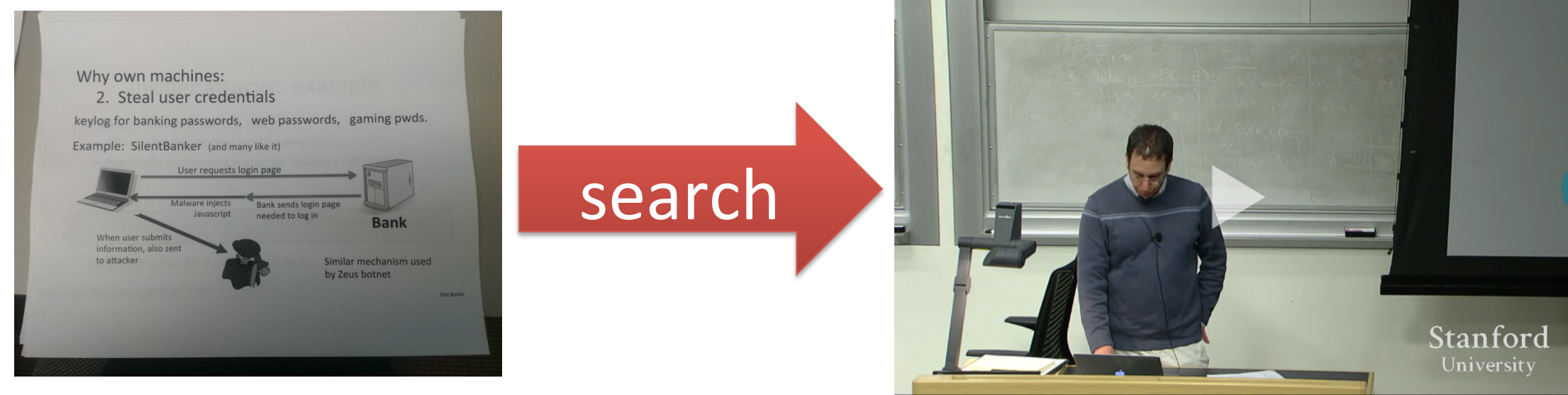# Slide-to-Lecture-Video Search on SCPD Database

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Motivation

In SCPD database it is hard to locate the time stamp where professor was talking about a particular concept, equation, graph, etc. Enabling slide-to-video search would be very helpful to students reviewing after class.
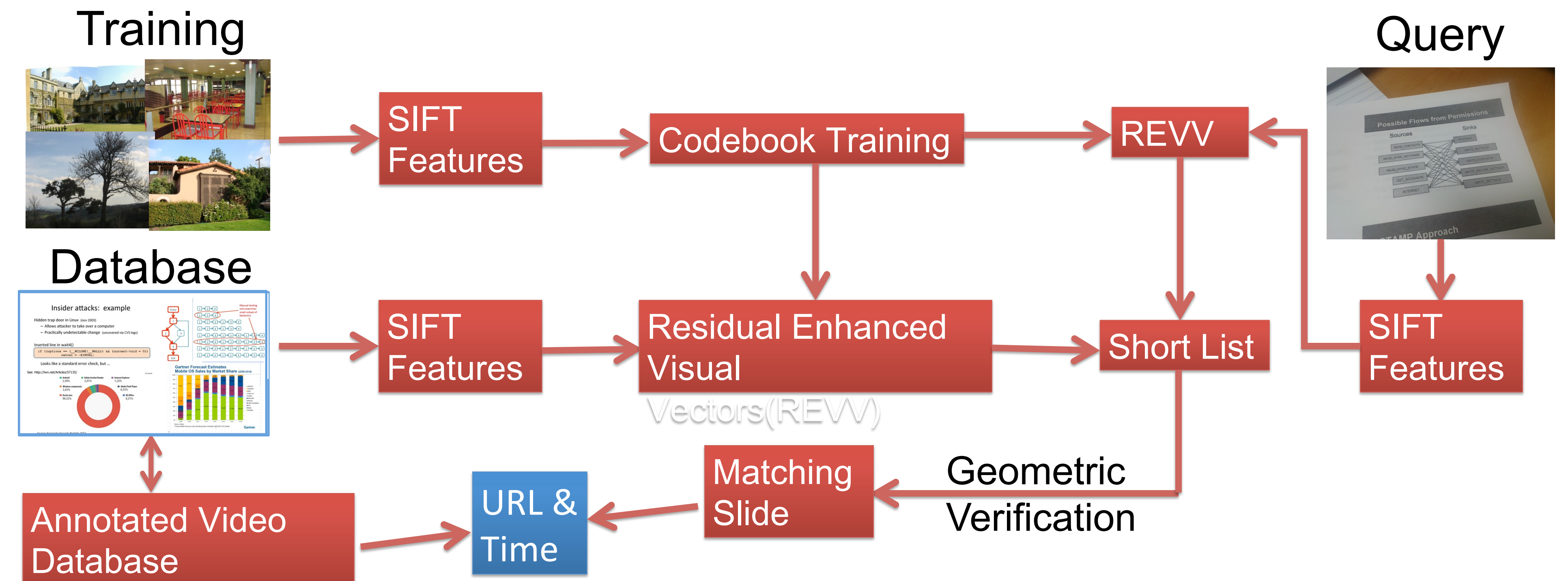
Related Work

[1]David Chen, Sam Tsai, Vijay Chandrasekhar, Gabriel Takacs, Ramakrishna Vedantham, Radek Grzeszczuk, Bernd Girod. "Residual enhanced visual vector as a compact signature for mobile visual search". *Signal Processing Vol.93, Issue 8*, 2013.

[2]Chum, O. Philbin, J. Sivic, J. Isard, M. Zisserman, A., "Total Recall: Automatic Query Expansion with a Generative Feature Model for Object Retrieval," *ICCV 2007*, vol.1, no.8, pp.14-21, 2007

Future Work

- Train Fisher Vector with text images to better distinguish between slides
- Find ways to segment slides before searching so as to exclude clutter
- Test on searching elements from slides, e.g. graphs, equations.

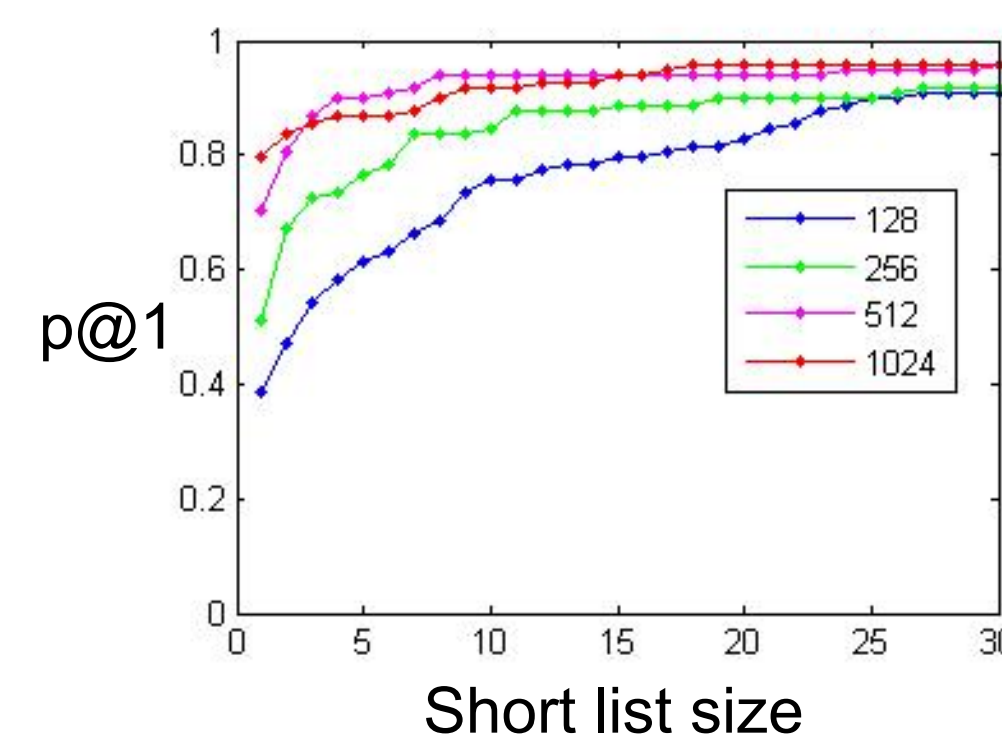## REVV-based mobile visual search

Experimental Results

Indexing Video vs. Indexing slides
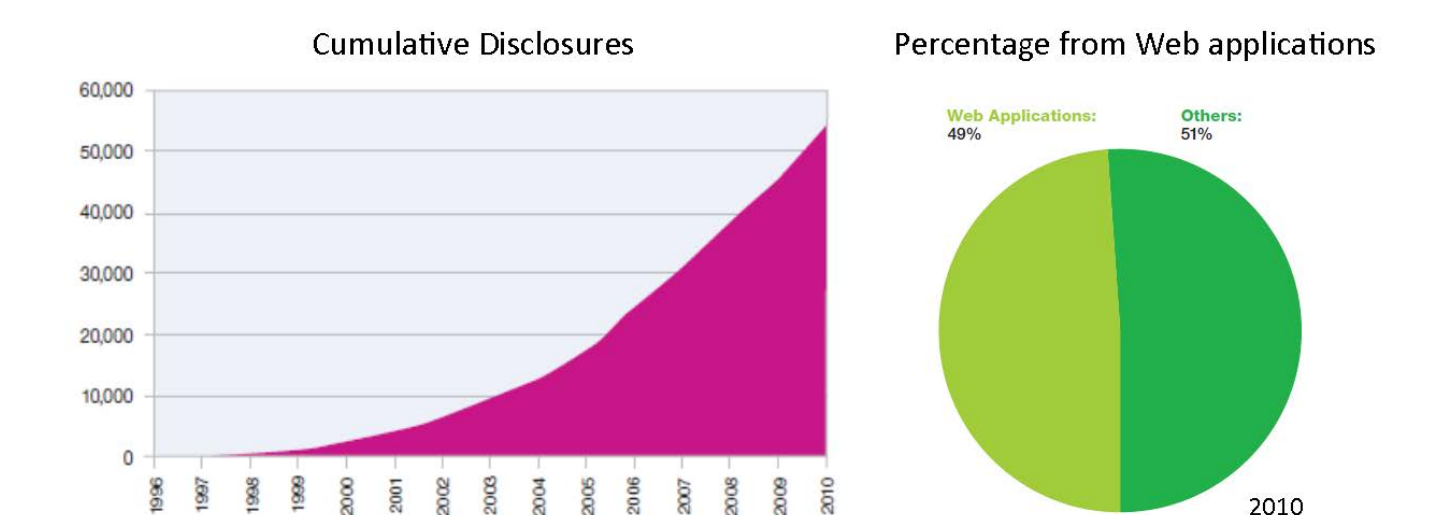
20hr videos
227MB memory
18% p@1

955 database images
3MB memory
90% p@1

Testing with NVIDIA SHIELD
0.24s Load data
2.42s Feature extraction
1.32s Revv search
4.41s Geometric Verification

Test It !