The Java Machine Learning Library

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We propose a community project to offer reference implementations of published machine learning algorithms in a uniform, portable, readable and documented way.

What is Java-ML?

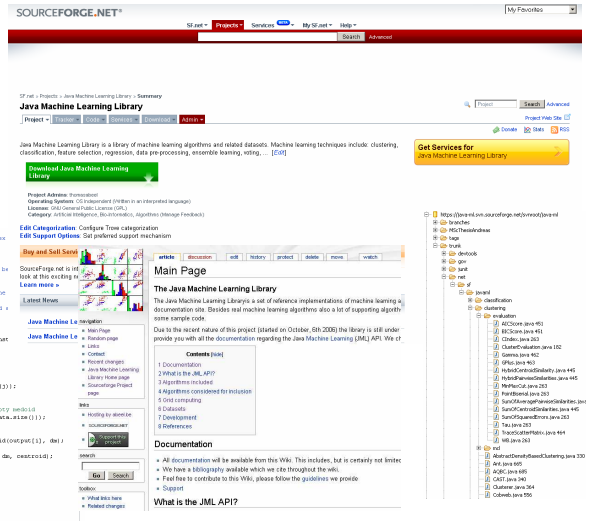
1. Machine learning techniques:
   - 18 Clustering algorithms
   - 15 Cluster evaluation functions
   - 3 Classifiers
   - 20 Distance functions
   - 4 Dataset filters
2. Common interface and modular design
3. Reference implementations
4. Well documented
5. Library style, no GUI
6. Open Source

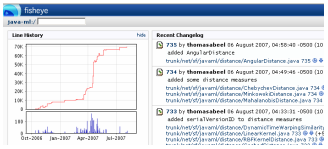
Motivation

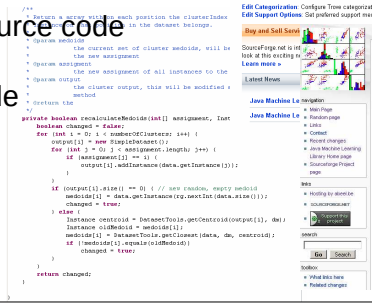
- Lack of a (good) machine learning library:
  - Reference implementations
  - Good, understandable documentation
  - With small, simple and straightforward to use API
- Existing libraries:
  - WEKA: is GUI oriented (>75% code) (alive)
  - MLC: 1997 latest source code
  - MLJ: 3 algorithms, 2002 (dead project)
  - YALE: is GUI oriented and is for experiment design
  - Cougar2: extension of WEKA and YALE (dead project)
- Provide a single place for machine learning algorithms

Code & Documentation

- **Wiki**: documentation, references
- **Forum**: interaction between developers, with end-users, …
- **Bugtrackers**: keep track of bugs
- **Annotated source code**: java doc and explanation of the algorithm
- **Generated API**: from the source code
- **Changelog:** with Fisheye
- **SVN repository**: source code

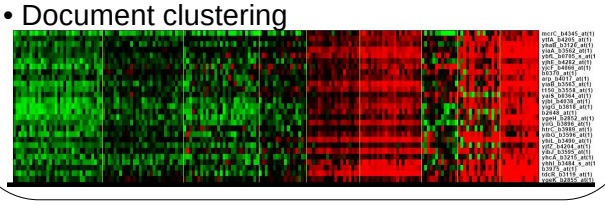






Applications

- Gene clustering for gene family construction
- Gene expression profile clustering
- Core promoter clustering
- Document clustering



The present and future

- Website: http://java-ml.sf.net
- 70k lines of code
- Looking for:
  - algorithm implementations
  - developers and collaborators