Huge amounts, growing exponentially.

Found in: databases, web, text, devices
Data & Knowledge Management
ECECS Department Research Group

- Raj Bhatnagar
- Karen Davis
- Lawrence Mazlack
- John Schlipf

intelligent Processing

Data → Knowledge

intelligent Representation
Group research interests:

- Data
  - Storage
    - Database
    - Web
    - Text
  - Access
  - Intelligent representation
- Intelligent data use
- Knowledge development
- Knowledge management
Data & Knowledge Management
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Group research interests:
• Data
• Intelligent data use
• Knowledge development
• Knowledge management

• Structure information:
  ○ Tightly: relational databases, ...
  ○ Semitransparent: web stored, hybrid, ...
  ○ Loosely: text, ...

• Issues: formal, heuristic
  ○ Representation
  ○ Access
  ○ Storage
Research Targets:

- Data warehouses
- Knowledge extraction and summarization
- Semantic web
- Causal structures in observational data
- Intelligent interfaces to databases
- Distributed databases
- Intelligent and deductive databases
- Loosely structured data
- Query processing and optimization
- Theory of query languages
- Knowledge representation and data modeling
Data & Knowledge Management
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• **Raj Bhatnagar**
  Pattern recognition, machine learning, distributed intelligence, data mining, data & sensor fusion

• **Karen Davis**
  Data warehouses, query languages, data models, applied database design, query optimization

• **Lawrence Mazlack**
  Intelligent databases & information structures, fuzzy systems, data & text mining, semantic web, text summarization

• **John Schlipf**
  Logic based & heuristic inference, search & optimization, intelligent information structures, query languages
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**Required courses from DKM:**

- DKM courses may be flexibly selected.
- Students are expected to take most of the DKM courses available to them. Courses should be selected in consultation with their advisor.

**Courses for 2005-2006:**

- 651: Database Theory
- 690: Intelligent Knowledge Representation
- 858: Data Mining
- 877: Advanced Data Models & Query Optimization

**Courses offered in other years (not scheduled for 2005-2006):**

- Semantic Web
- Advanced Database
- Data Warehouse Design