

# RITESH AGRAWAL

<http://www.personal.psu.edu/rja171>

Address: 302 Walker Bldg., State College, PA – 16801  
Email: [ragrawal@psu.edu](mailto:ragrawal@psu.edu) ▪ Ph: (217) 369-4875

## EDUCATION

### PhD., The Pennsylvania State University, University Park, PA.

Expected August 2008

ADVISERS: Dr. Donna Peuquet & Dr. Mark Gahegan

GPA: 3.83/4.00

THESIS: iLearning: A Semantic Model for enhancing geographical education.

RESEARCH AREAS: Knowledge Management, Ontology, Semantic Web, Geographic Information Science (GIS), Spatial-Temporal Databases, eLearning, Visual Analytics.

### M.S., University of Illinois at Urbana Champaign, Urbana, IL.

May 2004

MAJOR: Transportation Engineering.

GPA: 3.64/4.00

## SKILLS

LANGUAGES: Java, PHP, Javascript, C/C++, PL/SQL, Visual Basic.

DATABASES: MySQL, Oracle.

GIS PACKAGES: ArcGIS 9/8, ArcInfo, ArcSDE, GeoVista Studio

OTHER: RDF/OWL, RSS, SOAP, Apache, Luence, CakePHP, JQuery, ConceptVista, Improvise, ArcObject, MapObject

## APPLICATION DEVELOPMENT EXPERIENCE

### Memento (<http://findnwrite.com/memento>)

August 2005 – Present

- Conceptualized and developed Memento, an active online knowledge portal for researchers.
- Memento is currently being used by 160 users, contains more than 50,000 articles and can track latest issues of more than 6000 journals.
- Features Implemented: Library Management, Recommender System, RSS Alert, Watch List, Plugin for Word 2007, Endnote, Collaborative Work Space, Report Manager, Document Policy Management, Rich set of Import and Export utilities.

## RESEARCH EXPERIENCE

### Summer Research Internship, Pacific Northwest National Laboratory (PNNL), WA

April 2007 – June 2007

RESEARCH AREAS: Visual Analytics, GeoVisualization, Text-Mining.

Links: [GeoVisualization](#) (Firefox only) | [Meta-Visual Analytics Visualization](#) (Firefox only) | [Entity Extraction Toolkit](#)

- Explored challenges of disseminating knowledge. Designed a hybrid database schema to capture transitions in data, visualizations, and human-cognitive thoughts during a visual analytic session. Developed a web based timeline visualization to represent these transitions in an effective manner.
- Developed a web service and a “Google Map” mashup to identify and represent geographic locations in textual documents.

### Graduate Research, GeoVista Center, The Pennsylvania State University, PA

August 2004 – Present

RESEARCH AREAS: Knowledge Management, Ontology, GeoVisualization, Spatial-Temporal Databases.

Links: [ConceptVista](#) | [Improvise](#)

- Developed a web based rich visualization application to display geographical and temporal aspects of social network.
- Worked as a part of six-member team in developing a java based ontology editing and visualization toolkit, ConceptVista. Major contributions include a similarity framework to visually build and explore similar concepts, re-formalization of an ontology, and representing dynamic evolution of concepts.
- Explored and developed a prototype to demonstrate connection and communication between knowledge management systems (ConceptVista) and Visualization Systems (Improvise)

### Graduate Research, National Center for Supercomputing Applications (NCSA), IL

January 2003- August 2004

RESEARCH AREAS: Spatio-Temporal Visualization, GIS, Multi-attribute decision making.

- Developed ArcGIS plugins to explore space-time distribution of viruses and manage ArcSDE geodatabase server.
- Implemented java based multi-attribute decision making algorithms to facilitate decision making in an earthquake scenario.

## PUBLICATIONS

Gahegan, M., Agrawal, R., Jaiswal, A., Luo, J., and Soon, K. (2007). *Measures of similarity for integrating conceptual geographical knowledge: some ideas and some questions*. COSIT: Workshop on semantic similarity measurements.

Gahegan, M., Agrawal, R. and DiBiase, D. (in press). *Ontologies of pedagogy and geosciences to facilitate sharing and reuse of educational resources*, International Journal of Digital Libraries.

Gahegan, M., Agrawal, R., Banchuen, T., and DiBiasi, D. (2007). *Building rich, semantic descriptions of learning activities to facilitate reuse in digital libraries*. International Journal of Digital Libraries. 7(1):81-97.

Weaver, S. and Agrawal, R. (2007). *On the Brink: Using Visual Analytics to Explore Decisions made during the Cuban Missile Crisis*. Annual Meeting of American Association of Geographers, '07.

Agrawal, R. and Peuquet, D. (2006). *A Unified Task Taxonomy of Spatial Analytical and Visualization Operations*. GIScience '06, Munster, Germany.

Agrawal, R. (2003). *Space Time Analysis in an Enterprise GIS*. University Consortium for Geographic Information System '03.