

TOM AUER

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Education

2009 **Master of Science, Geography**

The Pennsylvania State University

Thesis: Explicitly Representing Geographic Change in Animated Maps with Bivariate Symbology

Advisor: Dr. Alan M. MacEachren

2005 **Bachelor of Science, Biology**

The University of Minnesota – Duluth

Major focus: Ecology *Minor:* Geography

Employment

2011 **Environmental Geovisualization Specialist, Independent**

Peace Dale, Rhode Island

- Managed multiple, concurrent client contracts
- Completed static and web mapping projects for remote clients

2010 **Web Map Developer, Center for Environmental Informatics**

The Pennsylvania State University – University Park, Pennsylvania

Wheat Fusarium Head Blight Prediction Center – *Project Manager/Risk Map Tool Developer*

- Tracked project requirements, group progress and accomplishments; managed meetings
- Upgraded Risk Map Tool from Flash to ExtJS4/OpenLayers browser-based application

USA National Phenology Network Visualization Tool – *Primary Developer*

- Iteratively designed and developed user interface with frequent client input
- Completed user evaluation of tool and presented results at IEEE VisWeek 2011

Brown Marmorated Stinkbug Tracking Portal – *Web-map Developer*

- Developed map-based user interface for input of crowd-sourced invasive species sightings
- Worked extensively with backend developers to establish client-server interface protocol

2010 **GIS Specialist**

2009 Applied Science Associates, Inc - South Kingstown, Rhode Island

Ocean Observatories Initiative Cyberinfrastructure - *User Experience Scientist*

- Performed exploratory observations and interviews of oceanographers
- Designed and developed preliminary user interfaces based on user maps and contexts

Environment Agency of Abu Dhabi Coastal Atlas – *Web-map Developer*

- Developed thin client web-map atlas using Adobe Flex and ArcGIS Server
- Managed ArcGIS Server instances for development and production

Research Experience

2009 **Research Assistant, Web-map Development**

2007 GeoVISTA Center at The Pennsylvania State University

- Used Flash CS3 and ActionScript 3.0 to develop proof of concept web-maps
- Designed web-mapping application interface

Publications

Auer, T., A. M. MacEachren, C. McCabe, S. Pezanowski, M. Stryker. 2011. HerbariaViz: A web-based client-server interface for mapping and exploring flora observation data. *Ecological Informatics*. 6(2): 93-110.

Auer, T. 2009. Mapping Data-specific Avian Distributions Utilizing Cartographic Point Aggregating Generalization Operators in a Multi-Scale Framework. 4th International Partners in Flight Conference, McAllen, TX.

Presentations

Auer, T., A. Rosemartin, D. Miller, L. Marsh, S. Crawford. Web-based Visualization of Phenology Data. Poster presented at IEEE VisWeek in Providence, RI. October 26, 2011.

Auer, T. Explicitly Representing Geographic Change in Map Animations. Paper presented in the session for *Cognition, Behavior, and Representation IV: Domains* at the 2009 Annual Meeting of the American Association of Geographers in Las Vegas, NV. April 25, 2009.

Memberships

2008-now Cartography and Geographic Information Society

2008-now North American Cartographic Information Society

2007-2009 American Association of Geographers (AAG)

2007-2009 Cartography Specialty Group of the AAG

Awards

2009 Penn State Department of Geography Ruby S. Miller Endowment for Geographic Excellence

2009 Penn State Department of Geography Ronald F. Abler Award

2008 AAG Cartography Specialty Group Master's Thesis Grant

2008 Penn State Department of Geography Academic Enrichment Award

2008 NACIS Student Web Map Competition – Runner-up

2007 Penn State Department of Geography Academic Enrichment Award

Technology Experience

Web development frameworks: **HTML5/CSS3/JS** and **Adobe Flex 4.5**

JavaScript libraries: **ExtJS 4/Sencha**, **jQuery**, and **d3.js**

Object-oriented programming languages: **ActionScript**, **JavaScript**, **Python**, and **Java**

Extremely proficient with in-depth use of **ArcGIS Desktop** and **Server** (version **10**)

Frequent user of web-map APIs: **OpenLayers**, **OpenScales**, **Google Maps**, and **ESRI ArcGIS**

Familiar with OGC standard practices for Web Map (**WMS**) and Web Feature Services (**WFS**)

Basic skill with graphical statistics packages: **R**, **SAS**, and **Microsoft Excel**

Experienced with **Adobe Creative Suite: Photoshop** and **Illustrator** (including **ExtendScript**)

Basic use of source version control: **Git**, **Mercurial**, and **SVN**

References Available Upon Request