

Chris Culy, Ph.D.

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Residence
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Summary

I combine a deep knowledge of language with techniques from natural language processing and information visualization to help people make sense of information in language.

Recent work experience

Independent Consultant

Consultant for the Analysis and Visualization of Language Data 2014-present

Provide services for all aspects of the analysis and visualization of language-based information

- Combine natural language processing and textual analysis with visualization
- Public example: Word Formation Latin site: wfl.marginalia.it
- Sample libraries used: numpy, pandas, matplotlib, spacy, gensim, d3js, ggplot2

Institute für Sprachwissenschaft (Linguistics), General and Computational Linguistics, University of Tübingen

Visiting Full Professor 2011-2014

Conducted research and taught courses on natural language processing and data visualization

- Developed new research projects and tools in the visualization of linguistic information, coupled with applications using natural language processing
- Taught courses in natural language processing and information visualization, emphasizing both theory and concrete applications, using Java, Python, and Javascript

Institute for Specialised Communication and Multilingualism, European Academy (EURAC), Bolzano-Bozen

Senior Researcher and Language Technologies Technical Officer 2008-2011

Led information and language technology research and development

- Developed innovative open source visualization programs, tools, and components
- Developed programs and tools for researchers in the Institute, integrating visualization, corpus query tools, databases, etc.

FX Palo Alto Laboratory, Inc.

Senior Research Scientist and Project Leader 2003-2005

Led a multi-disciplinary research group

- Successfully integrated groups in natural language processing, information retrieval, ubiquitous computing, and computer-supported cooperative work into new group
- Forged stronger connections with Japanese branches of the parent company, Fuji Xerox
- Granted 3 joint patents related to text summarization and recommendation systems

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SRI International

(Senior) Research Linguist

2000-2003

Led and worked on multi-disciplinary teams on innovative projects

- Co-Principle Investigator with speech scientists on SRI's DARPA Babylon Speech to Speech Translation project, funded for US\$3,000,000 over 24 months
- Granted 2 joint patents related to human-machine dialog systems

Patents

U.S. Patent 7,013,275: Method and apparatus for providing a dynamic speech-driven control and remote service access system. Inventors: D. Arnold, H. Franco, D. Israel, and C. Culy.

U.S. Patent 7,249,019: Method and apparatus for providing an integrated speech recognition and natural language understanding for a dialog system. Inventors: C. Culy, D. Israel, and J. Arnold.

U.S. Patent 7,363,294: Indexing for contextual revisitation and digest generation. Inventors: D-A. Billsus, D.M. Hilbert, J.J. Trevor, C.D. Culy, L. Denoue, G. Golovchinsky.

U.S. Patent 7,610,190: Systems and methods for hybrid text summarization. Inventors: L. Polanyi, M. H. van den Berg, G. L. Thione, R.S. Crouch, C.D. Culy, D.D. Ahn.

U.S. Patent 7,757,170: Recommendation aggregation for digest generation. Inventors: D-A. Billsus, C.D. Culy, D.M. Hilbert, J.J. Trevor.

Education

Ph.D. and A.M. in Linguistics, B.S. in Mathematics, Stanford University

Open source visualization tools

Exploring Word Formation in Latin web site:

wfl.marginalia.it

Visualization libraries:

chrisculy.net/lx/software/

Programming skills

Java, JavaScript, Python, R; XML, HTML, CSS

Natural language skills

Native: English

Good: French, German, Italian

Moderate: Spanish

Other: Bambara, Dogon, Fula

Publications in Linguistics or Visualization

- 20+ journal articles or book chapters
- 50+ conference papers
- 10+ invited talks on visualization of language and linguistic information since 2012