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David Fairchild Houghton, Ph.D.

Objective: Obtain intellectually challenging programming work employing and extending my current skills.

1 Work experience

Feb 2013-Aug 2014

Software Developer (Tellurium)
The Grant Street Group
Pittsburgh, PA

- billing system
- result sharing functionality
- math and date calculations in pbehave
- conversion of Tellurium browser extension from the Cross-rider to the Chrome API
- architect of pbehave grammar using the Regexp::Grammars framework

May 2012-Feb 2013

Consultant
Comcast T+PD (formerly StreamSage)
Washington, DC

- relation extraction using integer linear programming
- program metadata matching with a coarse-to-fine classifier

May 2011-May 2012

Chief Technical Officer
Linguix, Inc.
San Francisco, CA

- web application and service development
- sentiment analysis

May-September 2011

Consultant
Wheelz, Inc.
San Francisco, CA

- web scraping for business intelligence

2009-present Consultant
Complyon, Inc.
New York, NY

- rhetorical structure parsing
- text segmentation

2004-2010 Senior researcher
Comcast T+PD (formerly StreamSage)
Washington, DC

- scene segmentation
- unique entity tagging
- topic term extraction
- creation of web service architecture for NLP services

2002-2004 Network administrator
The Center for Responsive Politics
<http://www.opensecrets.org>
Washington, DC

- maintenance of servers and network infrastructure
- web server maintenance
- email services
- web applets

1999-2003 Vice president
Linguru
Nashville, TN

- co-creator of crowdsourced multilingual dictionary and web browser
- morphological analysis and generation tools for Welsh, English, and Spanish
- database search functionality and graphical interface
- website

1998 Editor of *Lexical Relations* (Jean-Pierre Koenig, 1999)
Buffalo, NY

- reviewed text
- wrote index

2 Education

- 2000 Ph.D., Linguistics, Linguistics Department, State University of New York at Buffalo, Buffalo, NY
Advisor: Dr. Jean-Pierre Koenig
Thesis Title: *Something About Anything: the Semantics of A, The, Any, and Certain*.
Abstract: I argue these four determiners can be construed as providing meta-information regarding the availability to the hearer of a winning strategy in the co-operative game of reference. I survey the range of uses observed for these determiners and demonstrate how the game-theoretical analysis offered can concisely account for them all.
- 1996 M.S., Linguistics, Linguistics Department, State University of New York at Buffalo, Buffalo, NY
Advisor: Dr. Matthew Dryer
Thesis Title: *Asseveration in Welsh*.
- 1991 B.A., English, minor in Physics, Department of English, University of Virginia, Charlottesville, VA
GPA: 3.7

3 Skills

3.1 Algorithms and Research Areas

classification, segmentation, sequence tagging, learning to rank, morphological analysis, extractive summarization, topic term extraction, parsing

3.2 Technologies

Eclipse, Tomcat, Apache, XML/XSL/XPath, HTML, CSS, AJAX, Comet, JQuery, Hibernate, SQL, MySQL, Postgres, Berkeley DB, CVS, Subversion, SVK, git, Mercurial, Stanford NLP libraries, Mallet, Weka, OpenNLP, Java and Perl multithreading, Catalyst, Mojolicious

3.3 Operating Systems

Linux, OS X, and Windows. Greatest proficiency in Linux, Red Hat and Debian-based distributions.

3.4 Programming Languages

Java, Perl, Javascript; some experience with Scala, Bash, XSL, PHP, Python, Ruby, Haskell, and C++.

3.5 Languages

Native fluency in English. Reading and lesser speaking fluency in Spanish, Welsh, French, and German. Reading proficiency in Latin. Some proficiency in Classical Greek, Sanskrit, and Finnish.

4 Open Source Projects

- CPAN distributions for which I am the listed author
- GSG CPAN distributions which I authored
 - DBG
 - Net::Stripe::Simple
- <https://github.com/dfhoughton>

5 Patents

- “Automatic recognition of a character in an audio-video document”
filing date: 12/15/2010
- “Detection of Transitions Between Text and Non-Text Frames in a Video Stream”
filing date: 10/20/2010; application number: 12/908048
- “Generating Topic-Specific Language Models”
filing date: 07/01/2009; application number: 12/496081
- “Disambiguation and Tagging of Entities”
filing date: 05/12/2009; application number: 12/464392; publication date: 11/18/2010; publication number: 2010/0293195
- “Method and Apparatus for Organizing Segments of Media Assets and Determining Relevance of Segments to a Query”
filing date: 12/24/2008; application number: 12/343790; publication date: 06/24/2010; publication number: 2010/0161580
- “Identification of Segments Within Audio, Video, and Multimedia Items”
filing date: 12/24/2008; application number: 12/343779; publication date: 06/24/2010; publication number: 2010/0158470

6 Publications

- [1] Geetu Ambwani, Amit Bagga, Leslie Chipman, Tony Davis, Evelyne Tzoukermann, Ryan Farrell, David Houghton, Oliver Jojic, Jan Neumann, Robert Rubinoff, Bageshree Shevade, and Hongzhong Zhou. *Multimedia Information Extraction*, chapter

Semantic Multimedia Extraction using Audio and Video. IEEE Computer Press, 2010.

- [2] Anthony Davis, David Houghton, Philip Rennert, Robert Rubinoff, Tim Sibley, Evelyne Tzoukermann, and Goldee Udani. Knowledge discovery via content indexing of multimedia and text. In *2005 International Conference on Intelligence Analysis*, McLean, Virginia, 2005. Mitre.
- [3] David F. Houghton. *Something About Anything: the Semantics of A, The, Any, and Certain*. PhD thesis, State University of New York at Buffalo, 2000.
- [4] David F. Houghton. Relinearizing phonology: an edge feature account of Shona. *Recherches Linguistique de Vincennes*, 28:41–58, 1999.
- [5] David F. Houghton. (in)definiteness and the game of reference. In *Papers from the 34th Regional Meeting of the Chicago Linguistic Society*. Chicago Linguistic Society, Chicago, 1998.
- [6] David F. Houghton. A game-theoretical account of definiteness. Paper presented at the Fifth Annual Graduate Philosophy Conference, Buffalo, 1997.
- [7] David F. Houghton. The phonetic basis of phonological tone. Paper presented at the Annual Meeting of the Linguistic Society of America, Chicago, 1997.
- [8] David F. Houghton. Asseveration in Welsh. Master’s thesis, State University of New York at Buffalo, 1996.
- [9] David F. Houghton. The game of reference. Paper presented at the Buffalo-Toronto Linguistic Society, 1996.
- [10] David F. Houghton, Leslie Chipman, Oliver Jojic, Jan Neumann, Bageshree Shevade, and Evelyne Tzoukermann. *TV Content Analysis*, chapter Automatic Recognition of Characters in TV Series Fusion of Audio, Video, and Text. CRC Press, Taylor Francis LLC, submitted.

7 Awards and Honors

- Woodburn Fellow, 1992-1996
- Echols Scholar, 1987-1991
- Virginia Scholar, 1987-1991
- Classical Association of Virginia Scholar, 1987-1991

- qualified for Phi Beta Kappa, 1989