

**Clay Fink**  
**Senior Software Engineer**  
**The Johns Hopkins University Applied Physics Laboratory**  
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**Summary**

A software engineer focused on applying natural language processing and machine learning in diverse data domains.

**Education**

M.S. The Johns Hopkins University, Computer Science (2003)

B.S. The University of Kentucky, Computer Science (1982)

**Work Experience**

**1999 to present: The Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland**

Software development and computer science research; representative projects have included:

- A grant from the Office of Naval Research focused on characterizing the demographics and sentiment of social media users in developing countries
- Other projects relating to the analysis of social media, including sentiment analysis, geo-location, rumor propagation, crisis informatics, crowd-sourcing, and disease surveillance.
- Semantic Web applications for discovering and managing ontology mappings, querying distributed databases, and searching for RDF-based data on the World Wide Web
- Development of a XML-based metadata standard for configuring data acquisition hardware to capture telemetry on military test ranges
- Distributed software infrastructure for a mini-submarine trainer/simulator

**1983 to 1999: Engineering and Information Services, Inc., under contract to The Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland**

- Software developer

**1982 to 1983: CGA Software Products Group, Rockville, Maryland**

Software developer

**Skills and Capabilities**

- Use of statistical, machine learning, and natural language processing tools such as Weka, Lingpipe, MALLET, LIBSVM, SVM-Lite, and R
- Object oriented application development with Java, C++, and Python
- Information retrieval applications using Lucene and Solr
- Web data collection using public APIs, screen scrapers, and Web crawlers
- XML processing and applications using DOM, SAX, XSLT, and XML Schema
- Database administration, design and development with MySQL and Postgres
- Web development using PHP, JSP, Servlets, EJB, Perl, HTML, CSS, and JavaScript

**Publications**

Finin, T., Mayfield, J., Joshi, A., Cost, R., & Fink, C. (2005). Information retrieval and the semantic web. In Proceedings of the 38th annual Hawaii international conference on system sciences (p. 113a-122a). Washington, DC: IEEE Computer Society.

- Bethea, W. L., Fink, C. R., & Beecher-Deighan, J. S. Onto-Mapology results for OAEI 2006. (2006). In *Proceedings of the 1st international workshop on ontology matching collocated with the 5th international semantic web conference* (pp. 144–152). CEUR Workshop Proceedings.
- Fink, C., Finin, T., Mayfield, J., & Piatko, C. (2008). *OWL as a Target for Information Extraction Systems*. Paper presented at OWL: Experiences and Directions Workshop, Gaithersburg, Maryland.
- Fink, C., Piatko, C., Finin, T., Mayfield, J., & Martineau, J. (2009). Geolocating blogs from their textual content. In *Proceedings of the AAAI 2009 spring symposium on social semantic web: where web 2.0 meets web 3.0* (pp. 25-27). Menlo Park, CA: AAAI.
- Alexander, D., Dorr, B., Eisner, J., Elsayed, J., Finin, T., Fink, C., Freedman, M., Garera, N., Mayfield, J., McNamee, P., Mohammad, S., Oard, D., Piatko, C., Sayeed, A., Syed, Z., Weischedel, R. (2009). In *Proceedings AAAI 2009 spring symposium on learning by reading and learning to read* (pp. 29-36). Menlo Park, CA: AAAI.
- Fink, C., Chou, D., Finin, T., Mayfield, J., Piatko, C., & Martineau, J. (2009). The geolocation of web logs from textual clues. In *Proceedings of the workshop on social mobile web, held in conjunction with the IEEE international conference on social computing* (pp. 1088-1092). Washington, DC: IEEE Computer Society.
- Rao, D., Paul, M., Fink, C., Yarowsky, D., Oates, T., & Coppersmith, G. (2011). Hierarchical bayesian models for latent attribute detection in social media. In *Proceedings of the fifth international conference on weblogs and social media* (pp. 598-601). Menlo Park, CA: AAAI.
- Fink, C., Kopecky, J., Bos, N., & Thomas, M. (2012). Mapping the Twittersverse in the developing world : an analysis of social media use in Nigeria. In *Proceedings of the 2012 International Conference on Social Computing, Behavioral Modeling, and Prediction*. Berlin, Heidelberg: Springer-Verlag.
- Sultanik, E., & Fink, C. (2012). Rapid Geotagging and Disambiguation of Social Media Text via an Indexed Gazetteer. In *Proceedings of the 2012 International Conference on Information Systems for Crisis Response and Management*.
- Fink, C., Kopecky, J., & Morawski, M. (2012) Inferring Gender from the Content of Tweets: A Region-Specific Example. In *Proceedings of the 6<sup>th</sup> International Conference on Weblogs and Social Media*. Menlo Park, CA: AAAI.
- Bergsma, S., McNamee, P., Bagdouri, M., Fink, C., & Wilson, T. (2012) Language Identification for Creating Language-Specific Twitter Collections. In *Proceedings of The Language and Social Media Workshop (NAACL 2012)*. Stroudsburg, PA: ACL.
- Glasgow, K., Ebaugh, A., & Fink, C. (2012). #Londonsburning: Integrating Geographic, Topical Social Information during Crisis. In *Proceedings of the sixth international conference on weblogs and social media*. Menlo Park, CA: AAAI.
- Park, J., Barash, V., Fink, C., & Cha, M. (2013). Emoticon Style: Interpreting Differences in Emoticons Across Cultures. In *Proceedings of the seventh international conference on weblogs and social media*. Menlo Park, CA: AAAI.
- Glasgow, K., & Fink, C. (2013). Hashtag Lifespan and Social Networks during the London Riots. In *Social Computing, Behavioral-Cultural Modeling and Prediction* (pp. 311-320). Springer Berlin Heidelberg.