

Yindalon Aphinyanaphongs, M.D., Ph.D.

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Research Interests

Machine Learning, Biomedical Informatics, Knowledge Management and Dissemination in Medicine, Medical Information Retrieval, Electronic Medical Records, Informatics in Pediatric Neurology, Primary Care, and Clinical Genetics, Text categorization, Natural Language Processing, Information Extraction, Educational Medical Informatics.

Education

Vanderbilt University, Nashville, Tennessee
Doctorate of Medicine
Expected Graduation Date: December 2009.

Vanderbilt University, Nashville, Tennessee
Doctorate of Philosophy, August 2007.
Dissertation: Identifying High Quality MEDLINE Articles and Websites Using Machine Learning.

Vanderbilt University, Nashville, Tennessee
Master of Science in Biomedical Informatics, May 2004.
Thesis: Text Categorization for Retrieval of High Quality Articles in Internal Medicine.

Rensselaer Polytechnic Institute, Troy, New York
Master of Science in Electrical Engineering, Signal Processing Focus, May 1994 - Aug 1999.
Thesis: Deconvolution for Improved Resolution of Scanning Laser Ophthalmoscope Imagery.

Rensselaer Polytechnic Institute, Troy, New York
Bachelor of Science in Biomedical Engineering, Electrical Concentration, May 1994 - Aug 1999.

Professional Technical Experience

Doctoral Candidate

Biomedical Informatics Graduate Program, Vanderbilt University, Nashville, TN.

- Dissertation: Identifying High Quality MEDLINE Articles and Websites Using Machine Learning. Advisor – Dr. Constantin Aliferis.
- Developed patented technology to build models that identify high quality MEDLINE articles.
- Developed methods to translate models to Boolean queries.
- Compared citation metrics to machine learning models for identifying high quality articles.
- Compared web hyperlinks to machine learning models for identifying high quality articles.
- Developed patented technology to build models that identify low quality websites that make false cancer treatment claims.
- Built a working prototype at <http://www.ebmsearch.org> implementing high quality models.

Master Candidate

Biomedical Informatics Graduate Program, Vanderbilt University, Nashville, TN.

- Dissertation: Text Categorization for Retrieval of High Quality Articles in Internal Medicine. Advisor – Dr. Constantin Aliferis
- Executed pilot studies for using machine learning to identify high quality treatment articles.
- Awarded first place in Student Paper Competition in 2003 for this work.

Master Candidate

Electrical Engineering Department, Rensselaer Polytechnic Institute, Troy, NY.

- Dissertation: Deconvolution for Improved Resolution of Scanning Laser Ophthalmoscope Imagery. Advisor – Dr. Timothy Holmes
- Developed technology to improve resolution of scanning laser ophthalmoscope images.
- Implemented novel algorithms in commercial deconvolution package.

Positions

PerkinElmer Optoelectronics., Santa Clara, California, 2000.

Test Engineer/ Systems Administrator

GE Medical Systems., Santa Clara, California, 1999.

Test Engineer/Junior Researcher

AutoQuant Imaging, Inc., Watervliet, New York, 1995 - 1999.

Programmer/ Research Engineer

Publications

Biomedical Informatics/ Machine Learning/Information Retrieval:

- **Aphinyanaphongs Y**, Statnikov A, Aliferis C. "A Comparison of Citation Metrics to Machine Learning Filters for the Identification of High Quality MEDLINE Documents." J American Medical Informatics Association. 2006; 13 (4): 446- 455.
- Bernstam E, Herskovic J, **Aphinyanaphongs Y**, Aliferis C. "Using Citation Data to Improve Retrieval from MEDLINE." J American Medical Informatics Association. 2006; 13 (1): 96-105.
- **Aphinyanaphongs Y**, Statnikov A, Tsamardinos I, Hardin D, Aliferis, C. "Text Categorization Models for High Quality Article Retrieval in Internal Medicine." J American Medical Informatics Association. 2005; 12 (2): 207-216.

Electrical Engineering:

- O'Connor N, **Aphinyanaphongs Y**, Zinser G, Bartsch DU, Freeman W, Flanagan J, Hutchins N, Hudson C, Holmes T. "Computational resolving power improvement for the scanning laser ophthalmoscope." Invest Ophthalmol Vis Sci 1999;40:S123.

Full-length, peer-reviewed papers in conference proceedings

- **Aphinyanaphongs Y**, Aliferis C. "Text Categorization Models for Identifying Unproven Cancer Treatments on the Web." In: Medinfo 2007; Sydney, Australia.
- Fu L, Wang L, **Aphinyanaphongs Y**, Aliferis C. "A Comparison of Impact Factor, Clinical Query Filters, and Pattern Recognition Query Filters in Terms of Sensitivity to Topic." In: Medinfo 2007; Sydney, Australia.
- **Aphinyanaphongs Y**, Jerome R, Aliferis C. "Formative comparative evaluation of traditional and recent quality-content filters for answering clinical questions with MEDLINE." In: MLA 2007; Philadelphia, PA.
- **Aphinyanaphongs Y**, Aliferis C. "Prospective Validation of Text Categorization Filters for Identifying High Quality, Content-Specific Articles in MEDLINE." In: Proceedings AMIA Symposium; 2006; Washington DC.
- **Aphinyanaphongs Y**, Aliferis C. "Learning Boolean Queries for Article Quality Filtering." In: MEDINFO; 2004; San Francisco, CA; 2004.
- **Aphinyanaphongs Y**, Aliferis C. "Text Categorization Models for Retrieval of High Quality Articles in Internal Medicine." In: Proceedings AMIA Symposium; 2003; Washington DC; 2003.

Panels

Bernstam E, Strasberg H, Haynes B, **Aphinyanaphongs Y**. "Clinical Knowledge: Moving Beyond Relevance to Importance." Panelist. In: Proceedings AMIA Symposium; 2005; Washington DC.

Patent

US Published Patent No. 2009-0077068: Content and Quality Assessment Method and Apparatus for Biomedical Information Retrieval (Issued March 19, 2009).

Reviewer Service

Journal of the American Medical Informatics Association (2006, 2007)

American Medical Informatics Association Annual Conference (2006, 2007): papers reviewer

Honors and Awards

- **Donald Lindberg Fellowship** awarded in 2005. (Fellowship awarded annually with a \$25,000 grant award).
- First place in the **Student Paper Competition** at the 2003 AMIA Symposium.

Professional Societies

- AMIA (American Medical Informatics Association) – 2003-Present
- MLA (Medical Library Association) – 2005 - Present

Citizenship

United States Citizen