Finn Kuusisto

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RESEARCH

My research is in machine learning and data mining, with applications in biology and medicine. In particular, my work focuses on employing clinical, genetic, and text data in predicting drug effects, treatment assignment, toxicity prediction, integration of expert knowledge, and precision medicine in general.

TECHNICAL SKILLS

LANGUAGES

Python • Java • R • C# • C++ • C
Javascript • Prolog • Lua • LaTeX

TOOLS AND APIS

SciKit-Learn • TensorFlow • Git
Weka • MySQL • Flask Framework

COMMUNITY WORK

PEER REVIEWING

NIPS | 2015, 17
ICML | 2016-17
AIStats | 2015-16
AMIA Joint Summits | 2016-17
AMIA Annual Symposium | 2014-15, 17
KAIS | 2015
Machine Learning | 2016

EDITORIAL WORK

ACM - XRDS Magazine
Department Editor
Jan 12 – Dec 15
Editor for Back, a then-now comparison of technology fitting the issue theme.

LINKS

LinkedIn:// **finn-kuusisto**
Github:// **finnkuusisto**

EDUCATION

UNIVERSITY OF WISCONSIN - MADISON | Madison, WI
PhD | Computer Science (Machine Learning)
January 10 - August 15
MS | Computer Science
September 08 - December 09

GUSTAVUS ADOLPHUS COLLEGE | St. Peter, MN
BA | Computer Science, Classics
August 03 - May 07
Magna Cum Laude • Phi Beta Kappa honor society • Eta Sigma Phi honor society
President's List • Dean's List • Cross Country • Track & Field

EXPERIENCE

MORGRIDGE INSTITUTE FOR RESEARCH | Madison, WI
Postdoctoral Research Associate | September 15 – Present
Research with the Regenerative Biology lab building predictive models of developmental toxicity from gene expression data, and doing text mining for cell reprogramming and drug repurposing.

UNIVERSITY OF WISCONSIN - MADISON | Madison, WI
Research Assistant | May 11 – August 15
Research with Jude Shavlik, David Page, and Elizabeth Burnside in uplift modeling, breast cancer prediction, adverse drug event prediction, and precision medicine.
Lecturer | June 10 - August 10
Lecturer for 8-week summer session of the intro CS course. Included development of course syllabus, preparing/grading assignments/exams, and supervising a TA.
Teaching Assistant | September 08 - May 11
Teaching assistant for the intro CS course. Included four semesters as a section instructor, and two semesters as a lab TA.

CONSULTING | Madison, WI
Data Science Consultant | November 14 – August 15
Consulting on data collection and processing, design and implementation of predictive modeling pipelines, and model evaluation and selection.

REMUGIO | Madison, WI
Co-Founder | September 14 – Present

OPEN SYSTEMS INTERNATIONAL | Plymouth, MN
Software Engineer | August 07 – August 08

SELECTED PUBLICATIONS

[1] F. Kuusisto, J. Steill, Z. Kuang, J. Thomson, D. Page, and R. Stewart. A simple text mining approach for ranking pairwise associations in biomedical applications. In *AMIA Joint Summits on Translational Science*, 2017.

[2] J. Weiss, F. Kuusisto, K. Boyd, J. Liu, and D. Page. Machine learning for treatment assignment: Improving individualized risk attribution. In *AMIA Annual Symposium*, 2015.

[3] F. Kuusisto, I. Dutra, M. Elezaby, E. Mendonca, J. Shavlik, and E. Burnside. Leveraging expert knowledge to improve machine-learned decision support systems. In *AMIA Joint Summits on Translational Science*, 2015.

[4] F. Kuusisto, V. Santos Costa, H. Nassif, E. Burnside, D. Page, and J. Shavlik. Support vector machines for differential prediction. In *European Conference on Machine Learning (ECML-PKDD)*, 2014.

[5] F. Kuusisto, I. Dutra, H. Nassif, Y. Wu, M. Klein, H. Neuman, J. Shavlik, and E. Burnside. Using machine learning to identify benign cases with non-definitive biopsy. In *IEEE International Conference on e-Health Networking, Applications & Services*, 2013.

[6] H. Nassif, F. Kuusisto, E. Burnside, D. Page, J. Shavlik, and V. Santos Costa. Score As You Lift (SAYL): A statistical relational learning approach to uplift modeling. In *European Conference on Machine Learning (ECML-PKDD)*, 2013.