Finn Kuusisto

http://cs.wisc.edu/~finn
finn@cs.wisc.edu | 651.434.2478

RESEARCH

My research is in machine learning and data mining, with applications in medicine. In particular, my work focuses on employing clinical and genetic data in treatment assignment, adverse drug event prediction, integration of expert knowledge in model development, and precision medicine in general.

TECHNICAL SKILLS

LANGUAGES

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

TOOLS AND APIS

MySQL • Git • Weka • SciKit-Learn
Play Framework 2.0 • Flask Framework

COMMUNITY WORK

PEER REVIEWING

NIPS | 2015
ICML | 2016
AIStats | 2015-16
AMIA Joint Summits | 2016
AMIA Annual Symposium | 2014-15
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 2015
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 models from genetic expression data to predict when compounds are toxic to developing neurological tissues.

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.

PICKUP RUNNING LLC | Madison, WI
Co-Founder | June 13 – Present

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

SELECTED PUBLICATIONS

[1] 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.

[2] 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.

[3] 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.

[4] 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.

[5] H. Nassif, F. Kuusisto, E. Burnside, and J. Shavlik. Uplift modeling with ROC: An SRL case study. In *International Conference on Inductive Logic Programming (ILP)*, 2013.

[6] 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.