Finn Kuusisto

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OVERVIEW

My primary expertise is in machine learning and data science, with an emphasis on biomedical applications. I have worked on clinical, genetic, and text data in predicting drug effects, treatment assignment, integration of expert knowledge, and precision medicine in general. Overal, my life's work is aimed at using machine learning responsibly to improve human quality of life.

TECHNICAL SKILLS

LANGUAGES AND TOOLS
Python • Java • JS • C# • C++ • C
LaTeX• SciKit-Learn • TensorFlow
Git • MySQL • Flask Framework

COMMUNITY WORK

PEER REVIEWING
NIPS • ICML • AAAI • AIStats • AMIA Informatics Summit • AMIA Annual Symposium • Machine Learning • KAIS • DAMI

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

MENTORING
Mentor for local startups and undergraduates at Gustavus and UW-Madison.

BADGERLOOP
Member of UW-Madison's team for the 2018 Hyperloop Pod Competition.

LINKS

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

EDUCATION

UNIVERSITY OF WISCONSIN | Madison, WI
PhD | Computer Science | Jan 10 - Aug 15
MS | Computer Science | Sep 08 - Dec 09

GUSTAVUS ADOLPHUS COLLEGE | St. Peter, MN
BA | Computer Science, Classics | Aug 03 - May 07
Magna Cum Laude • Phi Beta Kappa • Eta Sigma Phi • Cross Country • Track & Field

EXPERIENCE

FANTM | Madison, WI
Co-Founder | Sep 20 - Present
Building hardware and software for the future of human-computer inegration.

MORGRIDGE INSTITUTE FOR RESEARCH | Madison, WI
Postdoctoral Fellow | Jul 17 - Sep 20
Postdoctoral Research Associate | Sep 15 - Jun 17
Research with the Regenerative Biology lab building predictive models of toxicity from gene expression, and doing text mining for cell reprogramming and drug repurposing. Includes mentoring graduate and undergraduate research assistants.

UNIVERSITY OF WISCONSIN | Madison, WI
Research Assistant | May 11 - Aug 15
Research with Jude Shavlik, David Page, and Elizabeth Burnside in uplift modeling, breast cancer prediction, adverse drug event prediction, and precision medicine.
Lecturer | Jun 10 - Aug 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 | Sep 08 - May 11
Four semesters as an instructor, and two as a lab TA for the intro CS course.

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

REMUGIO | Madison, WI
Co-Founder | Sep 14 - Apr 18

OPEN SYSTEMS INTERNATIONAL | Plymouth, MN
Software Engineer | Aug 07 - Aug 08

SELECTED PUBLICATIONS

[1] F. Kuusisto, D. Page, and R. Stewart. Word embedding mining for SARS-CoV-2 and COVID-19 drug repurposing. *[In Review]*.

[2] F. Kuusisto, V. Santos Costa, Z. Hou, J. Thomson, D. Page, and R. Stewart. Machine learning to predict developmental neurotoxicity with high-throughput data from 2d bio-engineered tissues. In *IEEE International Conference on Machine Learning Applications*, 2019.

[3] A. Movaghar, D. Page, M. Brilliant, J. Greenberg, J. Hong, L. S. DaWalt, K. Saha, F. Kuusisto, R. Stewart, E. Berry-Kravis, and M. R. Mailick. Data-driven phenotype discovery of fmr1 premutation carriers in a population-based sample. *Science Advances*, 2019.

[4] R. Kleiman, F. Kuusisto, I. Ross, R. Stewart, D. Page, and J. Weiss. Machine learning assisted discovery of novel predictive lab tests using electronic health record data. In *AMIA Informatics Summit*, 2019.

[5] 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.

[6] 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.

[7] 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.