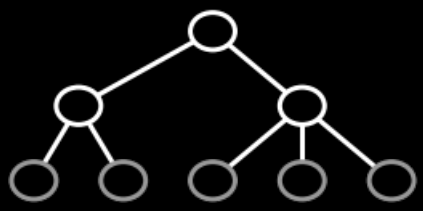
thomlake

machinelearning · **algorithms** · statistics



contact

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2301 Ohlen Rd, Apt 209
Austin, TX 78757
269.779.1495

online

github.com/thomlake
stackexchange: @alto
thomlake.github.io

notable projects

Flimsy.jl
Gradient based ML library
github.com/thomlake/Flimsy.jl

collapsed
Bayesian HMMs and MoHMMs
github.com/thomlake/collapsed

programming

Python
Julia
LaTeX
C
Java
JavaScript

machine learning

Structured Input & Output
Natural Language Processing
Neural Networks & Deep Learning
Bayesian Methods
Graphical Models

visualization

Matplotlib
D3

education

2012 - 2015 MS in Computer Science — Western Michigan University
Thesis: Analyzing Repetitive Sequences with Structured Dynamic Bayesian Networks
GPA: 4.0

2009 - 2012 BS — Western Michigan University
Major: Computer Science **Minor:** Mathematics
Senior Project: Semi-supervised sentiment analysis with noisy labels.
GPA: 3.94, Summa Cum Laude

experience

2014 - current Atlas Wearables — Austin, TX
Lead Data Scientist
– Designing novel Machine Learning algorithms for exercise classification, clustering, repetition counting, and form analysis
– Implementing optimized inference and learning algorithms to run in resource constrained embedded environments
– Setting up data storage, annotation, and quality control pipelines
– Designing and implementing various health metrics to provide personalized feedback to users

2013 - 2014 Zoetis — Kalamazoo, MI
Consultant, Genetics R&D
– Designed and implemented large scale genotype search algorithms by exploiting metric upper/lower bounds to non-metric similarity functions
– Designed algorithms for probabilistic inference of parent genotypes given known offspring genotypes
– Implemented pipelines for standardizing a variety of semi-structured external data sources by utilizing a combination of statistical natural language processing techniques, heuristics, and limited user input

2013 - 2014 Western Michigan University — Kalamazoo, MI
Research Assistant
– Designed and developed languages, parsers, and implementations of various access control policies (RBAC, MLS, DTE)

2010 - 2013 WMU Risk Avoidance and Mitigation Department — Kalamazoo, MI
Research Assistant
– Developed Machine Learning Algorithms for agricultural disease risk prediction
– Improved recall (true positive rate) through the use of appropriate loss functions and regularization
– Designed cross-validation procedures for spatiotemporal data

2010 Missouri University of Science and Technology Rolla, MO
NSF Undergraduate Research
– Wireless Sensor Network development and simulation
– Unsupervised Outlier detection in limited resource distributed computing environments
– Developed a novel dynamic tree based routing scheme

tea**ching**

Summer 2013 CS 5950 **Machine Learning** Western Michigan University
First offering. Developed course materials, assignments, and lectured. Course was based on Murphy's *Machine Learning a Probabilistic Perspective*.

Fall 2012 CS 2100 **Python** Western Michigan University
Revamped course. Utilized online materials and focused on real world applications.

hon**ors & awards**

2013 Graduate Teaching Excellence Award Computer Science
2011 Presidential Scholar Computer Science
2011 Dean's Outstanding Student Award Computer Science

pat**ents**

US 2015/0005911 A1
Portable Computing Device and Analyses of Personal Data Captured Therefrom