Michael Horvath Resumé

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SUMMARY

Michael is a Kansas City native, with a fierce interest in artificial intelligence and human cognition. With a background in Psychology and Statistics from the University of Kansas, he is currently exploring machine learning from the ground up. While he may put you to sleep explaining how cool it is that machines can learn at all, you might find it more enjoyable to ask about his dog Bruno. Check out his latest work over at github.

WORK

Contractor

Data Scientist, 2017

Developed a neural net constructor from the ground up in Elixir, to improve understanding of machine learning at its most basic level.

- Elixir, for it's utility as a concurrent, fault-tolerant design.
- Allowed for modification of all nodes, hidden layers, and activation functions.
- Included a genotypic visualizer to map out the literal neurons and connections within the neural net.

Deployed various machine learning programs, ranging from style-transfer to binary-classification, regression, and multi-class classification, on Google Cloud Computing platform to evaluate performance across various hyperparameters. Explored optimal neural net configurations and validation techniques.

- Installation of TensorFlow with nVidia Cudda libraries to accelerate processing via GPU utilization.
- Configuration of TensorFlow environment for docker, virtual environment, native, and cloud-based use.
- Explored optimal neural net configurations and validation techniques, including K-fold validation, recurrent neural nets, and feed-forward neural nets.
- Python and associated machine learning libraries, including numpy, scipy, Keras, and MNIST.

University of Kansas (Lawrence, KS)

Center for Research Methods and Data Analysis

Program Evaluation Consultant, 2010 - 2011

Reconstructed the ARC Self-Determination Scale - a 72 item self-report metric for use in reporting self-determination among students with learning disabilities. Presented findings to authors and collaborators. New version, with shortened length and increased validity and reliability is included in the latest iteration of the National Longitudinal Transition Study (NLTS-2), administered by the Department of Education.

- SAS and SPSS, tested internal reliability of scale using Cronbach's alpha.
- MPlus, used confirmatory factor analyses to determine construct validity of scale.
- Rebuilt scale including only the most reliable and theoretically valid items, following alpha testing and CFA's.
- R and MPlus, performed multiple imputation to implement planned missingness to extend usefulness of the scale.

- Power anlysis and validity testing on planned missing data.
- Adherance to HIPAA compliance protocols for sensitive and secure data.
- Presented findings to original author and collaborators, as well as to Program Evaluation Team and research symposium.

Collaboration with Program Evaluation Team to assess and evaluate various inter-departmental education grants for the purpose of grant submission, evaluation, and renewal.

- Translated goals and priorities of education grant to identifiable, measurable outcomes.
- Acted as liaison between Program Evaluation Team and clientele to explain technical results and communicate project goals.
- Developed, deployed, and administered training grant evaluation surveys, using REDCap.
- Data entry, cleaning, and database manipulation.
- Protocol revisioning, client intake assessment, and ticket-writing.
- Powerpoint, version control, meeting notes, proofreading.

MH Properties

Property Manager, 2009 - 2015

Managed and maintained rental beween 4 and 60 rental units. Responsibilities included leasing, advertising, accounting, and contractor oversight.

Benchmark Construction

Carpenter, 2013

EDUCATION

University of Kansas (Lawrence, KS)

BA in Pyschology and Quantitative Methods, with Honors, 2006 - 2011

- Courses in advanced statistics including multivariate power analysis, ANOVA, MANOVA, multiple imputation, linear regression, multiple regression.

University of Osnabrueck (Germany)

Semester Abroad in Cognitive Science and AI

- Courses in philosohpy of the mind, human cognition, and human categorization behavior.
- Converstaionally fluent in German.

AWARDS

CalTech Signature Award

CalTech, 2006

- Innovative and Creative thinking in mathematics and sciences.

National Merit Scholar

University of Kansas, 2006 - 2011

- Outstanding academic and extra-curricular achievement.

Dean's List Scholar

University of Kansas, 2006 - 2011

- Outstanding academic and achievement.