Jonah Bu
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EDUCATION

Shanghai Jiao Tong University 2010.09 - 2013.03
Master, Biomedical/Medical Engineering, 2.61/3.0 | top 10%
Research topic: Encoding mechanism of retina

Shanghai Jiao Tong University 2006.09 - 2010.06
Bachelor, Biomedical/Medical Engineering, 3.7/4.3 | top 10%

EXPERIENCE

Cloud Based Patient Follow-up and Rehab Management Solutions 2015.8 - Now
Data Scientist *Philips Research China*

· User Behaviour Analysis and Personalized Recommendation:

1. Develop user classification models to detect potential paying customers or the users who can benefit from the solution
2. Use machine learning (Stacking with RF+GBDT+LR) to analyze user behavior to facilitate the design of the business model of this solution
3. Design and develop the knowledge base enabling the functionality of clinical decision support of the system

Mobile Obstetrical Monitoring 2014.06 - 2015.07
Data Scientist *Philips Research China*

· High Risk Preganacy Identification Model:

1. Use Logistic Regression(LR) and Random Forests(RF) to develop risk predication models for pregnant woman on hypertension in pregnancy and pre-eclampsia
2. Evaluate and select data features by adding L1 regularization in LR and using out of bag(OOB) to estimate variable importance in RF
3. Experiment various gradient descent(GD) algorithms and its variants including BGD, Momentum, and Adam to evaluate the influence of choosing different solvers on the results
4. Design and implement a random patient profile generator for physicians to validate the models
5. Develop an Android prototype to implentent and test the models

Personal Health Management Solution 2014.01 - 2014.12
Data Scientist *Philips Research China*

· Chronic Disease Risk Prediction Models:

1. Design the whole workflow of personal health management
2. Develop risk predication models on four-year hypertension, eight-year diabetes, and ten-year cardiovascular diseases with Logisitic Regression(LR) and Support Vector Machine(SVM)
3. Evaluate and select data features
4. Build an online LR models for the continuously incoming data
5. Develop recommendation delivering systems including diet and exercise according to people's risk levels

Intelligent Test Suite 2013.04 - 2013.12
Data Scientist *Philips Research China*

· Intelligent Test Suite:

1. Rebuild disease risk models (including Weibull Regression and Cox Regression)by literature study
2. Design and implement knowledge base to deliver personalized recommendations

SUMMARY

- Proficient in machine learning algorithms including regression and classification (LR, LAR, DT, SVM, etc.), clustering (kMeans), and ensemble methods (boosting, bagging and stacking)
- Have a deep understanding of theoretical machine learning including PAC, VC theory, and Rademachar Complexity
- Understand and have experiences in deep learning (RBM, DBN etc.)
- Proficient in various optimization algorithms including gradient descent (BGD, SGD, Momentum, Adam etc.), Newtown method (newtown, BFGS), steepest descent (SD, CG) and Markov Chain Monte Carlo, and Variational Bayesian Inference
- Proficient in various kinds of feature selection methods including filter, wrapper, and embedded
- Understand Hadoop, MapReduce, and Spark
- Python, Matlab, R
- C++

PUBLICATIONS

Journal

- **Jingyi Bu**, Hao Li, Hai-Qing Gong, Pei-Ji Liang, Pu-Ming Zhang. "Gap junction permeability modulated by dopamine exerts effects on spatial and temporal correlation of retinal ganglion cells' firing activities." in *Journal of Computational Neuroscience*, 2013. (SCI indexed, IF = 2.51)

Conference

- **Jingyi Bu**, Ning Lan. "An Improved Multi-Channel Cortical Recording And Stimulation System." *International Convention on Rehabilitation Engineering & Assistive Technology*, p. 98-101, 2010. (EI indexed)

PATENTS

- Wang Jin, **Bu Jingyi**. "An Apparatus and Method for Evaluating Multichannel ECG Signals" WO2015052609A1.16/04/2015