Bin Yang

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**PROFESSIONAL PROFILE**

Senior Research Scientist with 6 years of experience proposing machine learning algorithms. Very familiar with designing **probabilistic models** and their **inference methods** such as **MCMC, EM**, etc. Richly experienced at creating new models, such as **Bandit algorithms** and **mixture models**, and utilizing them to **solve complex problems** in E-commerce industry. Looking to use my strong research background and rich experience on machine learning and E-commerce at your organization.

**PROFESSIONAL SKILLS**

* **Machine Learning**: *Bandit algorithm, Probabilistic model, Probabilistic inference, Mixture model, Deep learning, Clustering, Regression, Classification, etc.*
* **Programming Language**: *Java, Python, C/C++*
* **Database**: *Oracle, HIVE, mySQL, etc.*

**WORK EXPERIENCE**

**Senior Researcher -** *Hitachi R&D Group, Tokyo*

December 2017 - PRESENT

* **Shop sold improvement**: Optimized the average purchase of customers in the convenience stores by analyzing the raw data, predicting the purchase, and optimizing the merchandises. (**6.6%** improvement in purchase per customer)

**Lead Scientist -** *Rakuten Institute of Technology, Tokyo*

December 2012 - November 2017

* **Designed new Bandit algorithm and implemented the algorithm and platform.**
  + Bandit algorithm platform for A/B test
  + Advertisement optimization (**3-5%** improvement in CTR)
  + Event page optimization (**2-3%** improvement in CVR)
  + Web magazine optimization (**3%** improvement in CTR)
  + Coupon distribution strategy optimization (**3%** improvement in reservation)
* **User behavior analysis (Mixture model, Word2vec, etc.).**
  + User/Item fashion style extraction (**4%** improvement in CVR)
  + Shop recommender system (**3%** improvement in CVR)
  + Potential customer extraction
  + Being used as basic feature of personalization
* **Data analysis and prediction.**
  + Baseball player technique analysis
  + Stock price prediction

**Project Leader -** *NEC-SOFT, Tokyo*

August 2001 - March 2008

* **WebSAM JMSS**: New function development, maintenance, support and trouble shooting.
* **Secure Document Management System**: Product design, development, maintenance and technical support.
* **ACOS migration**: Design, development and operation of auto-conversion system.

**Team Leader -** *NTT-DATA (China), Beijing*

September 1998 - August 2001

* **China National Advanced Payment System (CNAPS)**: Design, development, test, and operation of application on the server (UNIX) side.

**EDUCATION**

**Master and PhD of Mathematical Informatics -** *THE UNIVERSITY OF TOKYO, Tokyo*

Graduation - March 2013

**Bachelor of Mathematics; Double major of Economy -** *PEKING UNIVERSITY, Beijing*

Graduation - August 1998

**SELECTED PUBLICATIONS**

* [1] Chen Zhao, Kohei Watanabe, Bin Yang, Yu Hirate. *Fast Converging Multi-armed Bandit Optimization Using Probabilistic Graphical Model*. The 22th Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD 2018**), 115-127, 2018.
* [2] Bin Yang, Issei Sato, Hiroshi Nakagawa. *Bayesian Differential Privacy on Correlated Data.* ACM Special Interest Group on Management of Data (**SIGMOD 2015**), 2015 (regular paper).
* [3] Bin Yang, Issei Sato, Hiroshi Nakagawa. *Secure Clustering in Private Networks.* The 11th IEEE International Conference on Data Mining (**ICDM 2011**), 2011 (long paper, acceptance ratio 18%).
* [4] Bin Yang, Hiroshi Nakagawa, Issei Sato, Jun Sakuma. *Collusion-Resistant Privacy-Preserving Data Mining.* The 16th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD 2010**), 483-492, 2010 (full paper, acceptance ratio 17%).

**AWARDS AND HONORS**

* **Student Award** - *Information Processing Society of Japan 50th Anniversary, 5ZE-3, 2010.*
  + Bin Yang, Hiroshi Nakagawa. “Anti-Collusion Privacy-Preserving Data mining”.
* **Excellent Paper Award** **-** *8th Forum on Data Engineering and Information Management, 2016.*
  + Bin Yang, Issei Sato, Hiroshi Nakagawa. “相関データにおけるベイジアン差分プライバシー”