

YIFAN YANG

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University of California, Santa Barbara

EDUCATION

Huazhong University of Science and Technology

August 2017-June 2021

B.S. in Electric and Information Engineering (with honor)

Overall GPA: 88.7/100(3.88/4)

Thesis: Sample-adaptive low-rank online tensor regression

- **Math Courses:**

Linear Algebra(93/100)/Calculus(94/100)/Probability Theory and Mathematical Statistics (92/100)
/Mathematical Physics Equation and Special Function(92/100)

- **CS&EE Courses:**

Data Structure(97/100)/Fundamentals of Computer Programming in C(99/100)/Java Programming(93/100)/Operating System(93/100)/Computer Networks(93/100)/Analog Circuit and Digital System(95/100)/Computer Organization(93/100)

University of California, Santa Barbara

September 2021-Present

Ph.D. in Computer Science

PUBLICATIONS

[1] Yifan Yang, Jie Xu, Zichuan Xu, Pan Zhou and Tie Qiu “Quantile context-aware social IoT service big data recommendation with D2D communication”, *IEEE Internet Things J.*, vol. 7, no. 6, pp. 5533-5548.

[2] Yifan Yang, Pan Zhou “Adaptive Online Convex Optimization with Stochastic Constraints:A Following-the-leading-history Approach”, *IEEE Transactions on Cybernetics*, [Online] <https://ucsb.box.com/s/3jmxru8rhzzgeh2bv28qja6z7y3p61hd> (Under Submission).

EXPERIENCE

Research Assistant

Sep. 2021 - Present

University of California, Santa Barbara

Supervisor: Prof. Zheng Zhang

Online Bayesian Inference

- We develop the online sampling algorithms for Bayesian inference.
- We develop the FTRL-based SGDM algorithm into the Riemannian manifolds.

Research Assistant

Oct. 2018 - Jun. 2021

Huazhong University of Science and Technology

Supervisor: Prof. Wei Yuan, Pan Zhou

Sample-adaptive online tensor regression with incremental updating method.

- Propose the online tensor regression algorithm by incrementally updating the parameter tensor.
- We enable the adaptive-sampling algorithm in the online tensor regression setting.
- We analyze the low-rank guarantee of the tensor updating process and approximation guarantee of the mapping process.

IoT service recommendation system by statistical machine learning algorithm.

- Propose the first tree-based quantile bandits algorithm to deal with both quantifiable and unquantifiable big data in the IoT network.

- Design a personalized service data retrieval system to solve the recommendation problem.
- Propose a novel quantile concentration inequity to analyze our algorithm and prove a sublinear regret bound for the algorithm.
- Collecte real-world services data and verified our system on the data on the MATLAB platform.
- The detail of this project is reported in my first publication.

Statistical machine learning research about adaptive online convex optimization with constraints.

- Developing an algorithm considering the adaptive problem with stochastic constraints.
- Theatrical analysis of the bound for the regret and constraints by bringing in multi-objective drift analysis.
- By definition the loss function as a linear function, we give the first regret lower bound for the adaptive algorithm based on the following-the-leading-history framework.
- Simulate the performance of the algorithm with Python.
- The detail of this project is reported in my second publication, which is under submission recently.

HONORS AND AWARDS

Outstanding Graduate, HUST	2021
Learning Merit Scholarship, HUST	2017, 2018, 2019
National Encouragement Scholarship	2018

TECHNICAL STRENGTHS

Programming Languages	Python(Expert), C(Proficient), Matlab(Proficient), JAVA (Familiar), SQL(Familiar)
Software & Tools	Latex, Tensorflow, PyTorch, PyCharm, Visual Studio