

Zhenxun Zhuang

PH.D. STUDENT IN COMPUTER SCIENCE

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“May you have grace to accept with serenity the things that cannot be changed, courage to change the things which should be changed, and the wisdom to distinguish the one from the other.”

Education

Boston University

PH.D. IN COMPUTER SCIENCE ADVISER: FRANCESCO ORABONA

Boston, MA, U.S.

Aug. 2018 - Present

Stony Brook University

PH.D. IN COMPUTER SCIENCE ADVISER: FRANCESCO ORABONA

Stony Brook, NY, U.S.

Aug. 2016 - Aug. 2018

University of Science and Technology of China (USTC)

B.ENG. IN ELECTRONIC INFORMATION ENGINEERING

Hefei, Anhui, China

Sep. 2012 - Jun. 2016

- **Thesis:** Prediction & Transform Combined Intra Coding in HEVC **Adviser:** Feng Wu
- GPA: 3.84/4.30; Rank: 8/104

Publications

Surrogate Losses for Online Learning of Stepsizes in Stochastic Non-Convex Optimization

ICML 2019

ZHENXUN ZHUANG, ASHOK CUTKOSKY, FRANCESCO ORABONA.

Long Beach, CA, U.S.

Experience

Optimal Lab, Boston University

RESEARCH ASSISTANT

Boston, MA, U.S.

May. 2017 - PRESENT

In my Ph.D., I focus on designing hyperparameter free machine learning algorithms which can automatically adapt to problem settings, such as deterministic or stochastic, convex or non-convex. I enjoy proving theoretical guarantees for these algorithms, as well as testing their empirical performance on synthetic and real-world problems.

IQVIA

MACHINE LEARNING INTERN

Plymouth Meeting, PA, U.S.

May. 2019 - Aug. 2019

- Studied the Online Meta-Learning framework, extended it to the non-convex setting, and introduced a new performance measure to replace the original one which is only applicable to convex cases.
- Applied this framework to a stochastic optimization problem, proved its theoretical performance guarantee which is robust to any hyperparameter initialization, and empirically verified its superiority compared with traditional methods.

Future Video Codec Research Group, USTC

UNDERGRADUATE RESEARCH ASSISTANT

Hefei, Anhui, China

Dec. 2014 - Jun. 2016

- Delved deeply into the High Efficiency Video Coding (HEVC) standard.
- Implemented a novel intra-picture prediction scheme including transform, quantization and entropy coding.
- Achieved good bit-rate reductions while preserving the perceptual quality.

Professional Activities

2019 **Reviewer**, Thirty-third Conference on Neural Information Processing Systems (NeurIPS)

Vancouver, Canada

2017 **Teaching Assistant**, CSE 303 Introduction to the Theory of Computation, **Instr.** Anita Wasilewska

Stony Brook Univ.

2016 **Teaching Assistant**, CSE 101 Introduction To Computers

Stony Brook Univ.

Honors & Awards

2015 **Gold Prize (top 3%)**, Outstanding Undergraduate Scholarship

USTC, Hefei, China

2014 **Di'ao Scholarship**,

USTC, Hefei, China

2013 **Silver Prize (top 11%)**, Outstanding Undergraduate Scholarship

USTC, Hefei, China

Computer Skills

C/C++, Matlab, Python, PyTorch, LaTeX, HTML/CSS