

Lie He

INJ 341, EPFL – Ecublens 1024, Switzerland

+41 788575750 • lie.he@epfl.ch • [LiamHe](#) • [Google Scholar](#)

Education

École Polytechnique Fédérale de Lausanne (EPFL)

Ph.D. Candidate in Computer Science

◦ Advisor: Prof. Martin Jaggi.

Lausanne, Switzerland

2019–now

École Polytechnique Fédérale de Lausanne (EPFL)

Master of Science in CSE

◦ Thesis: *COLA: Decentralized Linear Learning*

◦ Advisor: Prof. Martin Jaggi.

Lausanne, Switzerland

2015–2018

University of Science and Technology of China (USTC)

Bachelor of Science in Mathematics

◦ Thesis: *Numerical Fluxes of Finite Volumes Method for Euler Equations.*

◦ Advisor: Prof. Yinhua Xia

Hefei, China

2011–2015

Work Experience

Google Research

Research Intern

◦ Develop algorithms for multi-organizational federated learning where highly heterogeneous datasets are distributed over multiple organizations.
◦ Implement algorithms, process dataset and design experiments using TensorFlow and FlumeJava.

New York, USA

April–July 2019

MLO-Lab, EPFL

Software Engineer Intern

◦ Develop an open source project MLBench which provides a reproducible collection of reference implementations and benchmark suite for distributed machine learning algorithms.
◦ Implemented and benchmarked some distributed training of deep/linear learning algorithms.

Lausanne, Switzerland

Jul–Dec 2018

Deeption Inc.

Data Science Intern

◦ Extracted signals from social media using natural language processing and text mining.
◦ Used wikipedia to link name entities in tweets of multiple languages.

Lausanne, Switzerland

Jul–Dec 2017

Research Interests

My research interests lie in the general area of machine learning, particularly in the area of distributed training algorithms with Byzantine robustness, privacy, decentralized dataset(federated learning).

Honors and awards

2019: EDIC fellowship recipient

2015: Outstanding Undergraduate Scholarships

2014: Exchange Student Scholarship

Teaching

2020 MATH-111: Linear Algebra

2020 CS-119: Information, Computation, Communication

2015: Partial Differential Equation

Professional skills

Programming: Python, C/C++, Java, SQL

Language: Chinese (Native), English (A1)

Publications

Under review.....

Secure Byzantine-Robust Machine Learning

- Lie He, Sai Praneeth Karimireddy, Martin Jaggi
- Under review at Neurips 2020,

In preparation.....

Byzantine-Robust Learning on Heterogeneous Datasets via Resampling

- Lie He*, Sai Praneeth Karimireddy*, Martin Jaggi

Conference.....

COLA: Decentralized linear learning

- Lie He*, Yatao A. Bian*, Martin Jaggi

Academic Services

- Reviewer of ICLR 2021