Jiseok Chae
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E2-1 3227, KAIST
291 Daehak-ro,
Yuseong-gu,
Daejeon 34141,
Republic of Korea

Jiseok Chae

Interests

Professional

- Continuous Optimization for Machine Learning
- Design and Analysis of Machine Learning Algorithms
- Computational Mathematics

Education

Mar. 2021 – Present, KAIST

Integrated M.S./Ph.D. Program, Mathematical Sciences

- Advisor : Prof. Donghwan Kim

Mar. 2016 – Feb. 2021, KAIST

B.S., Mathematical Sciences
Minor: Computer Science

Publications

Two-timescale Extragradient for Finding Local Minimax Points

Jiseok Chae, Kyuwon Kim, Donghwan Kim
Preprint. Under Review.

Open Problem: Is There a First-Order Method that Only Converges to Local Minimax Optima?

Jiseok Chae, Kyuwon Kim, Donghwan Kim
36th Annual Conference on Learning Theory (COLT 2023)

HEaaN-STAT: a privacy-preserving statistical analysis toolkit for large-scale numerical, ordinal, and categorical data

Younho Lee, Jinyeong Seo, Yujin Nam, **Jiseok Chae**, Jung Hee Cheon
IEEE Transactions on Dependable and Secure Computing, Issue 4, 2023

Honors and Awards

Graduated *summa cum laude*
Undergraduate GPA : 4.06/4.3   Feb. 2021

National Scholarship for Science and Engineering
Korea Student Aid Foundation (KOSAF)   2016–2020

Dean's List
College of Natural Sciences, KAIST   2019 Spring
School of Freshman, KAIST   2016 Spring

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Professional Experience

Jun. 2019 – Aug. 2019, *Research Programmer Internship*, CryptoLab

- Developed HEaaN.STAT, a statistical data analysis program using the homomorphic encryption scheme HEaaN.
  - Joint work with **Korea Credit Bureau**
- Invented a table lookup method for categorical data encrypted in HEaaN.

Teaching Experience

KAIST

- *Head Teaching Assistant*:
  - MAS110 Linear Algebra for Data Science

    2022 Spring – 2023 Spring

    * The founding head TA of the newly established course.
- *Programming Teaching Assistant*:
  - MAS109 Introduction to Linear Algebra

    2022 Spring – 2023 Spring

    * Director of teaching MATLAB and designing MATLAB materials
    * Planner of programming assignments throughout the semester
- *Teaching Assistant*:
  - MAS101 Calculus I   2021 Spring, 2021 Fall
  - MAS374 Optimization Theory   2021 Fall
- *Undergraduate Teaching Assistant*:
  - MAS101 Calculus I   2018 Spring, 2019 Spring
  - MAS102 Calculus II   2018 Fall

Invited/Contributed Talks

2023, *Oral Presentation*, SAARC ColLabor Workshop
"Two-timescale Extragradient for Finding Local Minimax Points"

Skills

(Natural) Languages
- Korean (First Language)
- English (Native Level of Proficiency: New TEPS 532/600)
- Japanese (High-Intermediate Level: SNULT 72/100)

(Programming) Languages & Software:
- Python (including NumPy, PyTorch, ...)
- MATLAB   ○ C++   ○ LaTeX

Other Activities

- *Regular member* of the Korea Cube Culture United (KCCU)
- Member of *Pan-noreum,* a board game club in KAIST