Joonhyuk Ko

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School of Engineering and Applied Science
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RESEARCH INTEREST

My interests lie in the intersection of machine learning, optimization, fairness, and privacy. Recently, I've been working in algorithmic fairness and differential privacy.

EDUCATION

University of Virginia   *Aug 2022 – May 2026*
B.S. in Computer Science, B.A. in Mathematics   GPA: 3.995/4.000

Relevant Courses:
(*Graduate*) Convex Optimization[*], Machine Learning[*], Data Structures and Algorithms, Real Analysis, Probability, Linear Algebra, Partial Differential Equations, Theory of Computation, Software Engineering, Computer Systems and Organization

[*] Fall 2024 courses

RESEARCH EXPERIENCE

Research Assistant   *Jan 2024 – Present*
University of Virginia, Department of Computer Science   Charlottesville, VA
Advisor: **Dr. Ferdinando Fioretto**

- Undergraduate Research Assistant at RAISE (Responsible AI for Science and Engineering) group
- Research topics: Algorithmic Fairness and Differential Privacy

Research Fellow   *May 2024 – Aug 2024*
University of Virginia, Department of Computer Science   Charlottesville, VA
Advisor: **Dr. Ferdinando Fioretto**

- Selected as a Dean's Undergraduate Engineering Research Fellow.
- Awarded $4,800 from the engineering department to pursue full-time research for summer 2024.
- Attended weekly professional development workshops.

PUBLICATIONS

Preprints

1. **Joonhyuk Ko**, Juba Ziani, Saswat Das, Matt Williams, Ferdinando Fioretto. *"Fairness Issues and Mitigations in (Private) Socio-demographic Data Processes."*

TEACHING EXPERIENCE

Teaching Assistant   *Jan 2023 – Dec 2023*
University of Virginia   Charlottesville, VA

- Graded assignments and quizzes, and provided feedback to students for the following courses:

    - APMA 6410: Engineering Mathematics I (Fall 2023)

    - APMA 2130: Ordinary Differential Equations (Spring 2023)

Private Tutor   *Jun 2023 – Aug 2023*
Self-employed   Fairfax, VA

- Provided personalized instruction and guidance to high school students in AP Computer Science A curriculum.
- Focused on the best programming practices and problem-solving techniques to enhance students' understanding.

SKILLS

Programming Languages
Java, Python, C, JavaScript, TypeScript, MATLAB, SQL, LaTeX

Programming Tools/Libraries
SLURM, NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, Gurobi, SciPy

Languages
English (native), Korean (native)

HONORS

Dean's Undergraduate Engineering Research Fellowship, 2024
Dean's List, 2022-2024