

Joonhyuk Ko

School Address

School of Engineering and Applied Science
University of Virginia
Charlottesville, VA 22903

Contact Information

(703) 401-5605
tah3af@virginia.edu
www.joonhyukko.com

RESEARCH INTERESTS

My interests lie in the intersection of machine learning, optimization, fairness, and privacy. Recently, I've been working on analyzing the utility and fairness of various Statistical Disclosure Control (SDC) methods.

EDUCATION

University of Virginia

B.S. in Computer Science, B.A. in Mathematics

Aug 2022 – May 2026

GPA: 3.996/4.000

Relevant Courses:

Machine Learning^{*†}, Convex Optimization[†], Algorithms, Real Analysis, Abstract Algebra^{*}, Probability, Mathematical Statistics^{*}, Partial Differential Equations, Linear Algebra, Theory of Computation, Software Engineering, Computer Systems and Organization

^{*} Spring 2025 Courses [†] Graduate-Level Courses

RESEARCH EXPERIENCE

Research Assistant

University of Virginia, Department of Computer Science

Advisor: **Dr. Ferdinando Fioretto**

Jan 2024 – Present

Charlottesville, VA

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

Research Fellow

University of Virginia, Department of Computer Science

Advisor: **Dr. Ferdinando Fioretto**

May 2024 – Aug 2024

Charlottesville, VA

- 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.
- Presented at 2024 Fall Undergraduate Research Expo at UVA.

PUBLICATIONS

Conference Papers

1. **Joonhyuk Ko**, Juba Ziani, Saswat Das, Matt Williams, Ferdinando Fioretto. "[Fairness Issues and Mitigations in \(Differentially Private\) Socio-Demographic Data Processes.](#)" AAAI Conference on Artificial Intelligence (AAAI), 2025. **Oral Presentation (< 5%).**

TEACHING EXPERIENCE

Teaching Assistant

University of Virginia, Department of Applied Mathematics

Jan 2023 – Dec 2023

Charlottesville, VA

- Graded assignments and quizzes, and provided feedback to students for the following courses:
 - APMA 6410 (Graduate-level): 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 rising 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

Python, C, x86-64, Java, JavaScript, TypeScript, MATLAB, SQL, \LaTeX

Programming Tools/Libraries

SLURM, NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, Gurobi, CVXPY, SciPy

Languages

English, Korean

HONORS

CRA Outstanding Undergraduate Researcher Award, Honorable Mention, 2025

Dean's Undergraduate Engineering Research Fellowship, 2024

Dean's List, 2022-2024

REFERENCES

Professor Ferdinando Fioretto

Assistant Professor, Department of Computer Science

University of Virginia

Email: fioretto@virginia.edu

Professor Juba Ziani

Assistant Professor, H. Milton Stewart School of Industrial and Systems Engineering

Georgia Institute of Technology

Email: jziani3@gatech.edu