

EDUCATION

University of Virginia

B.S. in Computer Science, B.A. in Mathematics
GPA: 3.997/4.000; (both) Major GPA: 4.000/4.000

Charlottesville, VA

Aug 2022 – May 2026

Relevant Courses († Graduate-level):

Machine Learning[†], Convex Optimization[†], Algorithms, Real Analysis, Abstract Algebra, Linear Algebra, Probability, Mathematical Statistics, Partial Differential Equations, Theory of Computation, Computer Systems and Organization, Reinforcement Learning, Natural Language Processing, Intermediate Microeconomics

RESEARCH EXPERIENCE

University of Virginia, Department of Computer Science

Research Assistant

Charlottesville, VA

Jan 2024 – Present

Advisor: **Dr. Ferdinando Fioretto**

- Research topics: Differential Privacy, Algorithmic Fairness
- Undergraduate Research Assistant at [RAISE](#) (Responsible AI for Science and Engineering) group.
- Led to the following publication(s): [C1](#), [P1](#)

Carnegie Mellon University, School of Computer Science

Pittsburgh, PA

Research Intern

May 2025 – Aug 2025

Advisor: **Dr. Steven Wu**

- Research topics: Uncertainty Quantification, Learning Theory
- Summer visiting researcher in [Prof. Steven Wu's](#) group on a joint project with [Prof. Andrew Ilyas](#).
- Led to the following publication(s): [W1](#)

University of Virginia, School of Engineering and Applied Science

Charlottesville, VA

Research Fellow

May 2024 – Aug 2024

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.
- Presented a poster at the 2024 Fall Undergraduate Research Expo at UVA.

PUBLICATIONS

Conference Proceedings

- C1. **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%).**

Working Papers

- W1. $(\alpha - \beta)$ ¹ Andrew Ilyas, **Joonhyuk Ko**, Jingwu Tang, Steven Wu, Jiahao Zhang. “*Provably Label-Efficient Conformal Prediction.*” Manuscript Under Review, 2026.

Preprints

- P1. **Joonhyuk Ko**, Juba Ziani, Ferdinando Fioretto. “*Optimal Allocation of Privacy Budget on Hierarchical Data Release.*” ArXiv Preprint, 2025.

¹Author order is alphabetical.

AWARDS AND HONORS

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| CRA Outstanding Undergraduate Researcher Award [link] | 2025, 2026 |
| Finalist (2026), Honorable Mention (2025). | |
| Recognizes North American undergraduates with outstanding computing research potential. | |
| Louis T. Rader Undergraduate Research Award [link] | 2025 |
| Top Honors. The highest undergraduate CS research award at the University of Virginia (\$750 award). | |
| The Raven Society Member | 2025 |
| The oldest and most prestigious honorary society at the University of Virginia. | |
| AAAI 2025 Student Travel Award | 2025 |
| Received NSF-sponsored travel funding to support conference participation (\$1,800 award). | |
| Dean's Undergraduate Engineering Research Fellowship | 2024 |
| Received a stipend to pursue full-time research for summer 2024 (\$4,800 award). | |

INVITED TALKS

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| Talk: <i>Fairness Issues and Mitigations in (Differentially Private) Socio-Demographic Data Processes.</i> | |
| TOC4Fairness Seminar, Simons Foundation. [link] | Mar 2025 |
| Panelist: <i>Preparing for Undergraduate Research (CS 2501).</i> | |
| Department of Computer Science, University of Virginia. | Feb 2025 |

ACADEMIC SERVICES

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| Program Committee |
| AAAI Conference on Artificial Intelligence (AAAI), 2026. |

TEACHING EXPERIENCE

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| Teaching Assistant |
| APMA 6410 (Graduate-level): Engineering Mathematics I (Fall 2023) |
| APMA 2130: Ordinary Differential Equations (Spring 2023) |

ADDITIONAL INFORMATION

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| Technical Skills: Python, C, MATLAB, L ^A T _E X, SLURM, Gurobi, CVXPY, SciPy, TypeScript |
| Languages: English, Korean |
| Nationality: U.S. Citizen |

REFERENCES

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| Dr. Ferdinando Fioretto |
| Assistant Professor, Department of Computer Science |
| University of Virginia |
| Email: fioresetto@virginia.edu |
| Dr. Juba Ziani |
| Assistant Professor, H. Milton Stewart School of Industrial and Systems Engineering |
| Georgia Institute of Technology |
| Email: jziani3@gatech.edu |
| Dr. Steven Wu |
| Associate Professor, School of Computer Science |
| Carnegie Mellon University |
| Email: zstevenwu@cmu.edu |