

James Flemings

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Personal Website: <https://james-flemings.github.io>

RESEARCH INTERESTS

I'm broadly interested in privacy of large language models as well as responsible and trustworthy AI.

EDUCATION

Ph.D. Computer Science August 2022 – Current
University of Southern California
GPA: 3.80

B.S. Computer Science, Mathematics August 2017 – May 2022
Minor: Computer Systems Engineering
University of Alaska Anchorage
GPA: 3.94

AWARDS

- NSF Graduate Research Fellowship April 2023
- USC-Meta Center Top up Fellowship August 2022
- Google CS Research Mentorship Program (CSRMP) Scholar September 2021

RESEARCH EXPERIENCE

Center for the Study of Language and Information Program June 2022 – August 2022
Stanford University;
Mentor: Christopher Potts
Topic: Building robust and interpretable AI by using Interchange Intervention Training to improve Out of Distribution performance by 2-3% with RoBERTa

Research Experiences for Undergraduates in Software Engineering June 2021 – August 2021
Carnegie Mellon University;
Mentor: Heather Miller
Topic: Optimizing private and secure AI by developing a novel testing suite to benchmark Federated Learning algorithms, and developing experiments that highlight 1.5x runtime improvement of our algorithm

Summer Undergraduate Laboratory Internship June 2020 – August 2020
Brookhaven National Laboratory;
Mentor: Dr. Ivan Kotov

PUBLICATIONS

1. **J. Flemings**, M. Annavaram, "Differentially Private Knowledge Distillation via Synthetic Text Generation," 2024, Under Review.
2. **J. Flemings**, M. Razaviyayn, M. Annavaram, "Differentially Private Next-Token Prediction of Large Language Models," In *Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics* Main Conference, 2024.
3. **J. Flemings**, M. Razaviyayn, M. Annavaram, "Differentially Private Prediction of Large Language Models," In *The 5th Privacy-Preserving AI Workshop at AAI*, 2024.

PRESENTATIONS

"Modular Monochromatic $(3, t)$ -colorings". 52nd Southeastern International Conference on Combinatorics, Graph Theory & Computing. Florida Atlantic University. 2021.
Link: <https://www.youtube.com/watch?v=qciRVyWc90M>

TEACHING EXPERIENCE

Teaching Assistant

August 2019 – December 2022

University of Southern California

- **Courses:** CSCI 350: Introduction to Operating Systems

University of Alaska Anchorage

- **Courses:** CSCI 311 Data Structures and Algorithms; CSCI 211: Computer Programming II

Summer Engineering Academies (SEA) Staff Member

May 2019 – August 2019

University of Alaska Anchorage

- Facilitated the activities and learning of programming and robotics camps consisting of 20-30 kids from grades ranging from fourth to twelfth grade.

PROFESSIONAL SERVICE

Program Committee Member and Reviewer

2024

AAAI Workshop on Privacy Preserving Artificial Intelligence

Artifact Evaluation Committee Member

2022

Principles and Practice of Parallel Programming Conference

SKILLS

Programming Languages: C/C++, Python, Java, R, Bash

Tools and libraries: Git, GitHub, Tensorflow, PyTorch, Numpy, Pandas, Matplotlib

VOLUNTEER SERVICE

CSRMP Alumni Panel Discussion

2022

Google