Rachel Gordon

Chicago, IL +1 (614) 940-4325 rachelgordon@uchicago.edu https://rachelngordon.github.io

EDUCATION

University of Chicago, Globus Labs **Chicago, IL**
Ph.D. in Computer Science, August 2024 - Present

Loyola University Chicago **Chicago, IL**
Master of Science in Data Science, May 2024
Thesis with Distinction: Advancing HDR Brachytherapy Treatment Planning with Enhanced CT-to-MRI Synthesis, GPA: 4.0

Loyola University Chicago **Chicago, IL**
Bachelor of Science in Statistics, Data Science minor, May 2022
Capstone: "Expressing Communal Joy on Social Media During Dark Times: Harnessing Natural Language Processing Methods to Characterize Linguistic Affective Data", GPA: 3.93, Honors Summa Cum Laude

PUBLICATIONS

1. **Gordon, R.**, Kang, H., Podgorsak, A.R., Abuhamad, M. (2025). "Advancing HDR Brachytherapy Treatment Planning with Enhanced CT-to-MRI Synthesis." *Academia Medicine*. (In Preparation)
2. Khan, M.T., **Gordon, R.**, Khan, N., Moran, M., Abuhamad, M., Stalans, L., Huntsinger, J., Forestal, J., & Chan-Tin, E. (2024). Identification and Analysis of the Spread of {Mis}information on Social Media. Computational Data and Social Networks. Springer Lecture Notes in Computer Science, vol 14479.

RELEVANT EXPERIENCE

University of Chicago **Chicago, IL**
Graduate Research Assistant *August 2024 - Present*

- Implementing unsupervised deep learning methods for accelerated breast DCE-MRI reconstruction with improved spatiotemporal resolution to contribute to more accurate risk stratification, enabling personalized screening strategies and earlier cancer detection.
- Mentored an undergraduate student on a poster project over the summer
  - Ma, E., **Gordon, R.**, Woodard, A., Foster, I., Chard, K. (2025). "Slice-Aware Attention for Quality Control of Breast MRI Segmentations." eScience Poster Session 2025.

Argonne National Laboratory, Loyola University Chicago **Chicago, IL**
Graduate Research Assistant *August 2022 – May 2024*

- Conducted medical image synthesis of CTs and MRIs using custom GANs to enhance HDR brachytherapy treatment planning and improve accessibility of MRI.

TECHNICAL SKILLS

Programming Languages and Frameworks: Python (PyTorch, TensorFlow), R, SQL

Foundation & Multimodal Models: Large Language Models (LLMs), Vision-Language Models, Retrieval-Augmented Generation (RAG), Agentic AI Systems

Deep Learning Models: Unrolled Networks, Transformers, Diffusion Models, Variational Autoencoders (VAEs), Generative Adversarial Networks (GANs), Convolutional Neural Networks (CNNs)

Medical Imaging: MRI Reconstruction, Medical Image Synthesis, MONAI, pydicom, NiBabel, DCE-MRI, Parallel Imaging, Compressed Sensing, Radial k-space Processing,

Experimentation & HPC: SLURM, Distributed Data Parallel (DDP/NCCL), GPU-accelerated training

Cloud & Big Data: AWS, Azure, HBase, Hadoop, Spark, Hive

AWARDS

1. Best Paper Presentation in the Sciences for "Advancing HDR Brachytherapy Treatment Planning with Enhanced CT-to-MRI Synthesis" at Loyola University Chicago Graduate Interdisciplinary Research Symposium (2024)
2. Katherine Johnson Outstanding Achievement Award for outstanding performance in data science research and courses (2024)
3. Father Rust Memorial Award for outstanding performance in mathematics and statistics courses (2022)