

Cory Gardner

PHD STUDENT · DEPARTMENT OF COMPUTER SCIENCE

Saint Louis University, St. Louis, MO 63103

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Education

Saint Louis University

St. Louis, MO

PHD COMPUTER SCIENCE

2022 - Present

- Advisor: Dr. Tae-Hyuk Ahn
- Relevant Coursework: Geographic Information Systems, Software Engineering, Software Development, Machine Learning, Computer Vision, Natural Language Processing, Biometry, Data Structures, High Performance Computing, Parallel Programming, Distributed Computing, Computer Security

University of Wisconsin-Madison

Madison, WI

OPEN SCIENCE GRID (OSG) SCHOOL

2024

Saint Louis University

St. Louis, MO

MS BIOINFORMATICS AND COMPUTATIONAL BIOLOGY

2020 - 2021

Colorado State University

Pueblo, CO

BS SOCIOLOGY

2014 - 2017

Skills

TECHNICAL SKILLS

- Programming languages: C++, Python, R, CUDA, Bash
- Linux, macOS, and Windows environments
- HPC and HTC distributed computing systems
- Data analysis and data mining of large-scale datasets

SOFT SKILLS

- Leadership and Management: Supervised and mentored graduate students on diverse research projects in the Ahn Lab, with topics such as the analysis of low-biomass metagenomic samples and federated machine learning
- Oral Presentation: Experience as a guest lecturer in university-level college classes and presenter at multiple events, such as the Annual International Conference on Critical Assessment of Massive Data Analysis
- Experience in both self-directed and team research

Awards & Fellowships

NATIONAL SCIENCE FOUNDATION

2020-2021

- BITWISE Scholarship

INTERNATIONAL SOCIETY OF COMPUTATIONAL BIOLOGY

2020

- Fellowship for ISCB conference

CRITICAL ASSESSMENT OF MASSIVE DATA ANALYSIS INTERNATIONAL CONFERENCE

2020

- Best Presentation Award

Teaching Experience

Teaching Assistant

SAINT LOUIS UNIVERSITY

2023-2024

- Data Structures
- Distributed Computing
- Concurrent and Parallel Programming
- Introduction to Bioinformatics

Supplemental Instructor

SAINT LOUIS UNIVERSITY

2024

- Introduction to Bioinformatics II

Research Experience

Ahn Lab

Saint Louis University

ADVISOR: DR. TAE-HYUK AHN

2019 - Present

- CT-image analysis (GPU-based CUDA acceleration of CT images for quality control)
- Metagenomic Analysis (Critical Assessment of Massive Data Analysis)
- RNA-seq (Novel Candidate Genes Differentially Expressed in Glyphosate-Treated Horseweed)
- Long read de-novo assembly and annotation (Haplotype-resolved Chromosome-level Genome Assembly of *Saccharomyces bayanus* Reveals Genome Divergence after Hybridization)
- ChIP-seq analysis
- Privacy and Inference Attacks on Multimodal Machine Learning Models

Affiliations and Memberships

INTERNATIONAL SOCIETY FOR COMPUTATIONAL BIOLOGY (ISCB)

- Current member

STUDENTS FOR EXPLORATION AND DEVELOPMENT OF SPACE (SEDS)

- Current member

Publications and Conferences

Gardner, Cory, et al. "Chromosome-level subgenome-aware de novo assembly of *Saccharomyces bayanus* provides insight into genome divergence after hybridization." *Genome Research* (2024): gr-279364.

Yang Y, Gardner C, Gupta P, Peng Y, Piasecki C, Millwood RJ, Ahn TH, Stewart CN Jr., "Novel Candidate Genes Differentially Expressed in Glyphosate-Treated Horseweed," *Genes* (Basel), 2021.

Metagenomic Data Analysis with Probability-Based Reduced Dataset Representation, CAMDA, 2020