

Tim Kosfeld

Department of Computer Science
Saint Louis University
305 Ritter Hall
220 N. Grand Blvd.
St. Louis, MO 63103

Phone: (314) 585-2590
Office: 326 ISE Building
Email: kosfeldtd@slu.edu
Homepage: github.com/TKosfeld

Education

Saint Louis University, St. Louis, United States
M.S. in Bioinformatics and Computational Biology May 2023 (Expected)

Saint Louis University, St. Louis, United States
B.S. in Computer Science
B.S. in Data Science
Minor in Mathematics
Magna Cum Laude May 2022

Academic and Professional experience

Bioinformatics Laboratory Assistant (Dr. Ivan Baxter) October 2021 – Present
Donald Danforth Plant Science Institute St. Louis, MO, US
Construction and population of a Practical Haplotype graph using Zea-Synthetic Maize Teosintes founders in conjunction with script generated pseudogenomes, allowing for the genotyping of low-quality reads through trellis graph emission probabilities.

Bioinformatics REU Intern (Dr. Jim Giovannoni) May 2021 – August 2021
Boyce Thompson Institute, Cornell University Ithaca, NY, US
Construction of pipeline capable of identifying and isolating high impact structural variants from RNA sequence data in large tomato cohorts.

Bioinformatics Laboratory Assistant (Dr. Richard DiPaolo) June 2019 – Present
Department of Molecular Microbiology and Immunology, SLU School of Medicine St. Louis, MO, US
Interdisciplinary research collaboration in disease identification and severity prediction through TCR beta chain processing under deep neural networks. Diseases studied include Cytomegalovirus, Smallpox, Monkeypox, Zika, and SARS Cov-2.

Computational Laboratory Assistant (Dr. Tae-Hyuk Ahn) October 2018 – Present
Department of Bioinformatics and Computational Biology, Saint Louis University St. Louis, MO, US
Long term employment specializing in high performance computing and machine learning. Topics of research include clustering of viral metagenomic data, sequence to image conversion and analysis through convolutional neural networks, and electrocardiogram data analysis.

Publications

Peer-Reviewed Journal Articles and Conference/Workshop Proceedings

1. A. Rajeh, K. Wolf, C. Schiebout, A. Wu, **T. Kosfeld**, R. DiPaolo*, and T.-H. Ahn*, “iCAT: Diagnostic Assessment Tool of Immunological History using High-Throughput TCR Sequencing”, 2020. ([DOI link](#)).
2. **T. Kosfeld**, J. McMillan, R. DiPaolo, J. Hou*, and T.-H. Ahn*, “Performance Evaluation of Viral Infection Diagnosis using T-Cell Receptor Sequence and Artificial Intelligence”, in *Proceedings of the 11th ACM International Conference on Bioinformatics, Computational Biology and Health Informatics (ACM-BCB '20)*, September 21–24, 2020, Virtual Event, USA, 2020. (Acceptance Rate=30%) (Primary Author) ([DOI link](#)).

Conference Presentations and Invited Talks

- T. Kosfeld**, J. McMillan, R. DiPaolo, J. Hou*, and T.-H. Ahn*, “Performance Evaluation of Viral Infection Diagnosis using T-Cell Receptor Sequence and Artificial Intelligence”, in *Proceedings of the 11th ACM International Conference on Bioinformatics, Computational Biology and Health Informatics (BCB '20)*, September 21–24, 2020, Virtual Event, USA, 2020. (paper presentation)
- T. Kosfeld**, “VIPER: Identification of high-impact structural variants in tomato leaves”, George and Helen Kohut Symposium, Cornell University, Ithaca, NY. (poster presentation)
- T. Kosfeld**, “Tracking Antigen Exposure Using Deep Neural Networks”, Senior Legacy Symposium, Saint Louis University, St. Louis, MO. (poster presentation)
- T. Kosfeld**, “Assessing Covid Severity Through Convolutional Neural Networks”, Senior Computer Science Capstone, Saint Louis University, St. Louis, MO. (paper presentation)
- T. Kosfeld**, “Tracking COVID-19 in Missouri”, Senior Data Science Capstone, Saint Louis University, St. Louis, MO. (paper presentation)

Awards and Recognitions

Saint Louis University , Long Covid Computational Challenge Team Captain	September 2022
Saint Louis University , Graduate Research Assistantship	August 2022 – May 2023
Saint Louis University , Senior Legacy Symposium Representative	May 2022
Saint Louis University , Deans List	2017 - 2021

Professional Activities

Member:

International Society for Computational Biology (ISCB), 2020–2022.

Member, ACM Society / ACM SigBio, 2020–2022.

Certifications for NIH funded vaccine trials:

Human Research, Biomedical Research Investigators and Key Personnel

Good Clinical Practice (US FDA focus), GCP for Clinical Trials with Investigational Drugs and Medical Devices

Division of Microbiology and Infectious Diseases Certifications: NIH Annual Security, Investigator Responsibilities, Regulatory File Document Guidelines, Source Documentation Standards, Study Product

Management, Adverse Events/Serious Adverse Events, Clinical Quality Management, FDA Site Inspections and Audit Preparedness

Certifications for Cornell's BTI:

Full Course on RCR for Biomedical Sciences

Volunteer:

Saint Louis University Campus Kitchens, 2017–2020.

Front-End Database Coordinator, The Bridge Outreach Daytime Homeless Shelter, 2015–2016.
