SHAAN PAKALA

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https://shaanpakala.github.io/
Google Scholar, Github, LinkedIn

Education

University of California, Riverside (UCR) Sept 2021 – June 2025
B.S. in Data Science & Engineering
Upper Division GPA: 3.9/4.0

Research Experience

Data Science Research Assistant Sept. 2024 - Present
Supervisor: Professor Vagelis Papalexakis UCR

- Research assistant working on solving multidisciplinary problems with tensor completion
- Paper [2] accepted to AAAI 2025 Knowledge-Guided Machine Learning (KGML) bridge program
- Leveraging tensor completion to predict material property values, using the chemical formula

Bioinformatics Research Assistant March 2024 - Dec. 2024
Supervisor: Professor Stefano Lonardi UCR

- Worked on bioinformatics research problems using machine learning, related to protein sequence analysis
- Developed machine learning classifier to identify protein subsequences as antimicrobial peptides

NSF REU Research Intern June 2024 - Sept. 2024
Supervisors: Professors Vassilis Tsotras, Jia Chen, and Vagelis Papalexakis UCR

- Led team of 3 undergraduates in research project, in collaboration with UCR PhD students
- Presented full conference paper [1] at IEEE International Conference on Big Data 2024.
- Modeled hyperparameter tuning, neural network architecture search, and SQL query cardinality estimation as tensor completion problems to accelerate searching for their optimal configurations
- Developed task-specific tensor completion algorithm to cut parameters without decreasing performance

Other Experience

Computer Science Grader March 2024 - June 2024
Supervisor: Dr. Elena Strzheletska UCR

- Grader for Upper Division Data Analysis Methods (CS 105 at UCR)
- Facilitated and graded lab and project demos, as well as graded quizzes

Papers

Full Conference Paper

[1] Shaan Pakala, B. Graw, D. Ahn, T. Dinh, M. T. Mahin, V. Tsotras, J. Chen, E. Papalexakis, "Automating Data Science Pipelines with Tensor Completion," IEEE International Conference on Big Data 2024. **Received Student Travel Award.** [Link] [PDF] [Code]

Poster

[2] Shaan Pakala, D. Ahn, E. Papalexakis, "Tensor Completion for Surrogate Modeling of Material Property Prediction," AAAI 2025 Knowledge-Guided Machine Learning Bridge Program. [PDF]