Rostyslav Hnatyshyn

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https://github.com/rostyhn
https://git.rshyn.site/explore
https://vader.lab.asu.edu/

Education

Arizona State University

Ph.D Computer Science, expected 2026; Advised by **Dr. Ross Maciejewski**

M.S Computer Science, 2022

Rowan University, New Jersey

B.S Computer Science, 2020

A.F.A Music, 2019

Web Skills

Javascript HTML CSS
d3 React Svelte

Scripting Languages

Python Julia GodotScript
sh/zsh/bash

Compiled Languages

Java Rust C++ C#

DevOps Skills

Docker Jenkins CD/CI Ubuntu
Arch Linux Self-hosting

Currently Learning

Rust C++ λ Haskell SDF Shader Programming

Ph.D student at the Visual Analytics and Data Exploration Research (VADER) lab at Arizona State University. Passionate about building beautiful and efficient tools for extracting deep insights from data. Constantly searching for new things to learn about technology, programming and mathematics.

Work Experience

Research Assistant, VADER Lab, Arizona State University (2020-Present)

- **Published a paper on a novel method for cancer education using music [1].** Demo: https://capturing-cancer.rshyn.site
- **Co-authored a survey paper that explores the design space of combined visualizations [2].**
- Currently working on a visualization authoring system and a survey paper on that area.

Intern, Los Alamos National Laboratory (2020-2024)

- In the process of finishing a paper on clustering transitions within molecular dynamics trajectories.
- Developed a Python library for managing molecular dynamics simulations with graph databases.
- **Developed a visual analytics system for large molecular dynamics simulations [3].**

Student Intern, Bristol-Myers-Squibb (2016-2019)

- Used Convolutional Neural Networks to detect anamolies in mass spectrometer readings, preventing sample loss during experiments caused by machine miscalibration.
- **Built visualizations for ADME properties of various pharmaceutical compounds.**
- Built an application that generates FDA-ready reports for newly developed compounds.

Publications

1. Hnatyshyn, R., Hong, J., Maciejewski, R., Norby, C., & Maley, C. C. (2024, May). *Capturing Cancer as Music: Cancer Mechanisms Expressed through Musification.* In Proceedings of the CHI Conference on Human Factors in Computing Systems (pp. 1-11).
2. Hong, J., Hnatyshyn, R., Santos, E. A., Maciejewski, R., & Isenberg, T. (2024). *A Survey of Designs for Combined 2D+ 3D Visual Representations*. IEEE Transactions on Visualization and Computer Graphics.
3. Hnatyshyn, R., Zhao, J., Perez, D., Ahrens, J., & Maciejewski, R. (2023). *Molsieve: a Progressive Visual Analytics System for Molecular Dynamics Simulations*. IEEE Transactions on Visualization and Computer Graphics.