

Jonathan Romano

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Full stack developer and devops engineer focusing on UX, software architecture, and DX/tooling

Interest areas: R&D, arts & digital media, HCI, information management, collaboration, and education

WORK EXPERIENCE

Frameshifter - *Co-founder and Executive Director*

APRIL 2025 - PRESENT

- Operations, strategy, and technical leadership for new fiscally-sponsored nonprofit engaging the public in scientific research

Howard Hughes Medical Institute/Das Lab - *Software Engineer I*

OCTOBER 2022 - MARCH 2025

Skills: [TypeScript](#), [VueJS](#), [PixiJS](#), [AWS](#), [AWS CDK](#), [Linux](#), [Docker](#), [Grafana LGTM](#)

- Continuation as lead developer of the Eterna citizen science game/platform, performing ongoing maintenance, bugfixing, and feature development
- **Rewrote backend API** to replace deprecated technology, adding **automated tests**
- Implemented **monitoring, observability, and KPI tracking** with Grafana LGTM
- Updated **research computation** pipelines for improved **usability and reproducibility**

Stanford University/Das Lab - *Software Developer*

DECEMBER 2017 - OCTOBER 2022

Skills: [TypeScript](#), [VueJS](#), [PixiJS](#), [Linux](#), [AWS](#), [AWS CDK](#), [PHP](#), [SQL](#), [Python](#), [Ansible](#), [Docker](#)

- Primary developer of the Eterna citizen science game/platform, implementing **hundreds of features and bugfixes** for website frontend, backend, and RNA design/simulation interface, along with performing major refactoring to address technical debt and assisting in UI/UX design
- Performed routine **system administration and devops** tasks
- Led key improvements in **code hygiene, security, performance, automation, and docs**

University at Buffalo Department of Computer Science - *Undergraduate Teaching Assistant*

AUGUST 2019 - MAY 2022

- Prepared course materials, reviewed student work, and assisted students with course content
- Courses include introductory computer science, data science, and human computer interaction

DreamWorks Animation - *Platform Services and Infrastructure Intern*

JUNE 2021 - AUGUST 2021 | Skills: [Go](#), [Python](#), [DataDog](#), [Spinnaker](#)

- Improved usability, performance, reliability, and code quality of **deployment system microservices**
- Built DataDog dashboards to monitor deployment system health
- Developed automated end-to-end tests for deployment system validation

- Designed an ML workflow for **time series data analysis** in an ongoing research project using power grid data to detect cybersecurity breaches, implementing core ETL processes
- Presented in the 2017 Syracuse University Research Experience for Undergraduates Symposium

PROJECTS

FIRST Robotics Scouting Application - Core Developer/Team Lead

JANUARY 2016 - APRIL 2018 | Skills: Python, Django, HTML/CSS/JS, Bootstrap, VueJS, Vuetify, GraphQL

- Led **UI/UX design, software architecture, data modeling, and development** of a web application for tracking performance of multiple teams.
- Led and contributed using **Agile** processes (Scrum and Kanban)

EDUCATION

University at Buffalo, The State University of New York - BS Computer Science, Honors College

AUGUST 2018 - MAY 2022

AWARDS AND RECOGNITIONS

- **CSE Faculty Choice Undergraduate Award** - University at Buffalo, MAY 2022
- **Phi Beta Kappa** - NY Omicron, MAY 2022
- **Tau Beta Pi** - NY Nu, MAY 2022
- **Grace W. Capen Academic Award** - University at Buffalo, MAY 2022

SELECTED PUBLICATIONS

- Rohan V. Koodli, Boris Rudolfs, Jonathan Romano et al. 2025. Redesigning the Eterna100 for the Vienna 2 folding engine. DOI:<https://doi.org/10.1101/2021.08.26.457839>
- Shujun He, Rui Huang et al. 2024. Ribonanza: deep learning of RNA structure through dual crowdsourcing. *BioRxiv* 2024.02.24.581671. DOI:<https://doi.org/10.1101/2024.02.24.581671>
- Hannah K. Wayment-Steele, Wipapat Kladwang, Andrew M. Watkins, Do Soon Kim, Bojan Tunguz et al. 2022. Deep learning models for predicting RNA degradation via dual crowdsourcing. *Nature Machine Intelligence* 4, 12 (2022), 1174–1184. DOI:<http://doi.org/10.1038/s42256-022-00571-8>
- Kathrin Leppek, Gun Woo Byeon, Wipapat Kladwang, Hannah K. Wayment-Steele, Craig H. Kerr et al. 2022. Combinatorial optimization of mrna structure, stability, and translation for RNA-based therapeutics. *Nature Communications* 13, 1 (2022). DOI:<http://doi.org/10.1038/s41467-022-28776-w>
- Josh Aaron Miller et al. 2021. How do players and developers of citizen science games conceptualize skill chains? *Proceedings of the ACM on Human-Computer Interaction* 5, CHI PLAY (2021), 1–29. DOI:<http://doi.org/10.1145/3474671>