

Jonathan Romano

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Full stack developer and devops engineer focusing on UX, software architecture, and DX/tooling
Interest areas: Research, archival, information management, collaboration, the arts, and HCI

WORK EXPERIENCE

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

OCTOBER 2022 - PRESENT

Skills: TypeScript, VueJS, PixiJS, Linux, AWS, Ansible, Figma

- Currently leading the architecture and execution of a full rewrite of the Eterna citizen science game/platform, including **UI/UX** and **game design, development tooling**, website **frontend and backend**, RNA **design/simulation interface**, and **cloud infrastructure**

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
- Performed routine **system administration and devops** tasks and designed and implemented **CI/CD** pipelines and **highly-scalable systems**
- Led key improvements in **code hygiene, security, performance**, and **automation**
- Wrote formal **requirements specifications** and greatly expanded internal **documentation**

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

Syracuse University College of Engineering and Computer Science - *Research Assistant/Intern*

JULY 2017 - AUGUST 2017 | Skills: Python, SQLAlchemy, DSATools, PowerWorld

- 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 | Cumulative GPA: 3.95

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

PUBLICATIONS

- Hannah K. Wayment-Steele et al. 2022. Deep learning models for predicting RNA degradation via dual crowdsourcing. *Nature Machine Intelligence* 4, 12 (2022), 1174–1184.
DOI:<http://dx.doi.org/10.1038/s42256-022-00571-8>
- Kathrin Leppek et al. 2022. Combinatorial optimization of mrna structure, stability, and translation for RNA-based therapeutics. *Nature Communications* 13, 1 (2022).
DOI:<http://dx.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://dx.doi.org/10.1145/3474671>