

Aaron Agarunov

Software Engineer

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Experience

Software Engineer III, Memorial Sloan Kettering Cancer Center

May 2018 – Present

New York, NY

- Designing, developing, and maintaining multiple clinical bioinformatics software systems across the Pathology department for treating 60k+ patients
- Collaborating with computational biologists, attending physicians, and team members to create and implement modern, performant interfaces for use in reviewing clinical test sequencing and analysis results using React for front ends, Python for RESTful services, MySQL & MongoDB for data storage
- Created an internal JavaScript framework for our teams of >10 developers to reduce code duplication, improve DX, hasten prototyping, and allow for design unity across web applications for different MSK labs and clinical assays
- Reduced TTFB and TTI by >100% on our core web applications by optimizing query times and introducing code splitting
- Improved workflow efficiency for molecular pathology laboratory teams by creating tools and APIs to manage quality control for sequencing runs and task worklists for clinical case sign-outs
- Introduced JavaScript and Python development tooling, error tracking, pytest utilities, and Cypress end-to-end testing into various CI/CD pipelines

Research Assistant, CUNY Hunter College

August 2015 – August 2017

New York, NY

- *Normal Mode Analysis with Gaussian Network Modeling of Hepatitis C Virus NS5A Protein Characterizes Dimer Interfaces* honors thesis under Dr. Lei Xie

Projects

- 🔗 **Foton** ◦ Single-page application for photo sharing, cloning 500px.com
 - Implements an infinitely scrolling photo feed with pagination and virtualization for a fluid UX
 - Provides *Explore* page to browse recommended users and photos, and full-text search for photos, tags, and users
 - Supports image uploads to AWS and displays photos in multiple resolutions for improved network performance
- 🔗 **kume** ◦ Interactive visualization of color quantization using k-means clustering to find dominant colors
 - Leverages Canvas API and SVG to create a performant visualization of the clustering algorithm demonstrating dominant colors
 - Implements the CIELAB color space and ΔE^* color difference to compute more accurate color distance comparisons in k-means assignment
- 🔗 **ronivonu** ◦ Generative art pieces created in JavaScript and Processing
- 🔗 **Pathing** ◦ Interactive demonstration of maze generation and searching algorithms like Prim's, BFS, DFS, Dijkstra's, and A*

Skills

Languages

JavaScript, Python, Ruby, SQL, HTML, CSS, Sass

Libraries, Frameworks

React, Flask, jQuery, OpenAPI, Next.js, Gatsby, Rails, Node.js, Jekyll, Cypress, pandas

Tools

Git, Docker, GitLab CI/CD

Design

Figma, Photoshop, TouchDesigner

Education

App Academy

New York, NY

November 2017 – February 2018

Full-stack web development course

- 1,500+ hour curriculum teaching in Ruby and JavaScript
- Emphasis on CS fundamentals, design patterns, OOP, TDD

Macaulay Honors College at CUNY Hunter College

New York, NY

August 2013 – May 2017

B.A. in Chemistry & Bioinformatics, Minor in Mathematics

- Data Science Pipeline Fellowship, June 2016
- Full Merit Scholarship, 2013 – 2017

Hobbies

Music discovery, photography, competitive gaming, generative art, graphic design, calligraphy