Aaron Agarunov

Software Engineer

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Experience

Software Engineer IV, Memorial Sloan Kettering Cancer Center

May 2018 – Present   New York, NY

- Designing, developing, and maintaining clinical bioinformatics software systems across the Pathology department for treating 60k+ patients
- Collaborating with computational biologists, physicians, and engineers to architect and implement performant UI for reviewing results from industry-leading high-throughput clinical tests, using React, Python, SQL and NoSQL
- Created an internal JavaScript framework and monorepo for teams of >20 developers to reduce code duplication, improve DX, hasten prototyping, and introduce design unity across web apps for different MSK labs and assays
- Led a rewrite of our core web applications, optimized query times, and introduced web performance patterns like budgets and code splitting
- Reduced TTI and FID by 80%+, LCP by 70%+, network usage by 90% on analysis and results case views, our most visited pages across all assays
- Improved workflow efficiency for molecular pathology laboratory teams by creating CLIs 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

- *Gaussian Network Modeling of Hepatitis C Virus NS5A Protein* under Dr. Lei Xie

Projects

⊡ **q3p** ◦ Consulting agency for premier music and gaming entities

- Develop and service website and Discord bots for 400k+ daily active users

⊡ **Foton** ◦ Single-page application for photo sharing, cloning 500px.com

- Implements an infinitely scrolling photo feed with pagination and virtualization
- Provides *Explore* page to browse and follow recommended users and photos
- Includes site-wide full-text search for photos, tags, and users
- Supports image uploads to AWS, displays photos in network-appropriate resolutions, and allows users to edit image posts

⊡ **kume** ◦ Interactive visualization of color quantization using k-means clustering to find dominant colors

- Leverages Canvas and SVG layers to performantly visualize dominant colors
- Implements the CIELAB color space and ΔE^* color difference to compute accurate color distance comparisons in k-means assignment

⊡ **ronivonu** ◦ Generative art created in JavaScript, Python, and Processing

⊡ **Pathing** ◦ Interactive demonstration of maze generation and common searching algorithms

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, GH Actions

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, generative art, competitive gaming, graphic design, calligraphy