Derek M. Gygax
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Work Experience

Software Engineer/System Administrator
Aug 2022 - Current

57 West Capital Advisors, Inc.

Fulfilled role as Software Developer, Project Manager, and System Administrator for 57 West Capital Advisors, Inc.'s webpage https://57west.us/ to promote their company.

- Interact with the customer on a regular basis to update/maintain the webpage to their satisfaction.
- Responsible for building/editing code, updating external libraries, and production deployment.
- Written in Next.js TypeScript with Tailwind for styling, responsive for both desktop and mobile browsers.

Bioinformatics Engineer
Sept 2021 - July 2023

Mendelgen

Developed, improved, and maintained bioinformatic web applications on the webpage https://mendelgen.com/ allowing biologists to simulate biological assays.

- Devised and created algorithms to simulate many different DNA cloning techniques, along with PCR, allowing scientists to study anticipated results before completing the assays.
- Built using React and extensively utilizes Redux to maintain data across features on the site.

Software Engineer
Dec 2017 - Jan 2020

Artemis Consulting, Inc.

Developed and maintained web applications for the Library of Congress allowing for the search of web archives and the submission of new copyrights.

- Improved and helped maintain the ProjectOne search application and web page (https://loc.gov/). Specifically aided in the newspapers section built using Django and utilizing the search engine Apache Solr. Also extensively used the JavaScript library OpenSeadragon to view digitized newspaper articles and perform article clippings to be downloaded.
- Aided in the development of a new web platform for the Copyright Office to allow for the submission of new copyrights online. Built using Angular and Java, deployed via Docker containers hosted on AWS Elastic Container Service.

Bioinformatics Engineer
May 2014 – Dec 2017

In Silico Solutions

Designed and developed web-based applications, bioinformatics pipelines, database solutions, and Docker (Virtual machine) images to assist biologists with the analysis of public and private biological data. Interacted with customers to ensure implemented website designs and bioinformatics algorithms best suited their needs.

- Developed a web-based application to perform bioinformatic analysis for the MD Anderson Cancer Center Reverse phase protein array (RPPA) core facility. Used standard HTML and JavaScript (front-end), Java (back-end), MySQL, and Python and R (bioinformatic algorithms). Created Docker images to allow independent organizations to download and use the pipeline.
- Aided the In Silico Solutions team collaborating with the Karchin lab at Johns Hopkins University to design and develop the genomic sequence variant annotation software CRAVAT (Cancer-Related Analysis of Variants Toolkit) (http://cravat.us), and the 3D protein variant viewer, MuPIT (Mutation Position Imaging Toolbox) (http://mupit.icm.jhu.edu). Helped build a Docker image containing both CRAVAT and MuPIT, allowing customers to download the software and securely analyze private patient data.

Education

MS, Human and Molecular Genetics
Aug 2010 – May 2014

Virginia Commonwealth University

Thesis Research: "Comprehensive Review on the Existence of Genomic Imprinting in Aves"

BS, Biology
Aug 2006 – May 2010

College of William and Mary

Major: Biology **Minor**: Mathematics