Danielle Colucci

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FULLSTACK DEVELOPER

A full stack engineer with an eye for detail and a passion for intertwining technical problem solving with visual creativity. A fast learner with a wide-range of experience creating innovative applications. Expertise in Agile cycle, satisfying development requirements, enhancing UX, designing modern UI, and managing client expectations. Current developer of enterprise applications and REST APIs for government customers, and a graduate of an immersive software engineering bootcamp with a Bachelor's degree in mathematics and biology and additional experience in translational cancer research.

TECHNICAL & INTERPERSONAL SKILLS

Languages: JavaScript, TypeScript, **C#,** Python, HTML, CSS, SQL, JSON, JSX, C++
Libraries and Frameworks: Angular, React, .NET, Express.js, Node.js, Mongoose, Sequelize, LINQ, ArcGIS SDK
Databases and other: Microsoft SQL Server, PostgreSQL, MongoDB, REST APIs, Git, Responsive Design, UI Design
Interpersonal skills: communication, collaboration, time management, dependability, leadership

WORK EXPERIENCE

VHB Inc - Watertown, MA

June 2023 - Present

Software Engineer

- Write effective and efficient front end code in the Angular/TypeScript framework and back end code in the C#/.NET framework, utilize ESRI SDK and REST API and ArcGIS to integrate, manipulate, and visualize spatial data
- Work as part of a small team to develop, maintain, and upgrade web applications for government clients in agile development sprints and routine QA cycles
- Lead front end design on internal Marketing applications to provide an interfaces to visualize GIS data and scoring values on proposals
- Engage in client meetings and team discussions to identify client expectations, design and plan user facing features and workflows, and identify how to both achieve client necessities and consider budget constraints

Selected Technical Projects

State Historic Preservation Office Applications - PA-SHARE - NH EMMIT+ - Angular | TypeScript | C# | .NET
GIS-based web applications where users can submit Federal Section 106 Reviews, and where internal SHPOs can approve projects, maintain inventory records, and communicate with the agencies and municipalities of the state.

- Developed and designed client facing UI and workflows,developed and designed new REST API, improved UX from existing SHPO applications, integrated client feedback, and participated in routine QA for new NH EMMIT+ app
  - Written in monorepo with custom configuration to package application for future clients
- Developed front and back end solutions for new features, improved and enhanced existing functionality and workflows, collaborated with client, participated in routine QA, and relieved technical debt in phase 2 of PA-SHARE app development

VHB Parcel Viewer - Wayne County - Essex County - Angular | TypeScript | ArcGIS
Online parcel viewer where users can perform criteria and spatial searches, view parcel data, and visualize GIS data

- Developed front end parcel viewer web application with responsive layout and modern UI in monorepo with custom configuration to package application for multiple clients
- Integrated ArcGIS basemaps and parcel layers with ESRI REST API and SDK to provide map functionality, including but not limited to parcel search by spatial criteria, abutter search, custom map markup tools, and elevation profiles

GeoVHB - Angular | TypeScript | C# | .NET *Published December 2024*
VHB's internal, geospatial, centralized, and web-based portal that provides easy access to geospatial data and applications across our entire footprint

- Led front end development on two applications that provide full integration with internal project data and provide simplified UI/UX for non-GIS users to utilize "out of the box" ArcGIS functionality, including but not limited to building and designing maps, manipulating project points, and sharing content with other users

NYSDOT Scoring Tool - Angular | TypeScript | C# | .NET *Published February 2024*
An internal algorithm-based application for VHB's marketing team to predict NYSDOT RFP success

- Led front end design to upgrade the existing inefficient and inaccurate Excel calculations to a modern UI where team members can provide scoring values via form, add subcontractors, and modify firm contributions
- Integrated with API designed after NYSDOT's provided Design Scoring Methodology to calculate an RFP's score, improving accuracy by 80%

Massachusetts General Hospital - Charlestown, MA

July 2021 - November 2022

Research Assistant

- Collaborated with Jamie Heather, PhD in the lab of Aaron Hata, MD, PhD to assist in broad screen of 20+ healthy donors to identify ALK reactive T cells
- Characterized and quantified activation of aforementioned T cells in the presence of ALK peptide and ALK+ cell lines to progress development of immunotherapies to target ALK+ non-small cell lung cancer
- Analyzed experimental and genetic (see above) data, produced meaningful figures, and effectively reported results
- Mentored and managed projects and daily tasks of undergraduate summer intern

Selected Technical Projects

TCR V Gene Polymorphism - 08/2022 - GitHub - Python

A program that extracts key gene information from large data files and detects polymorphic changes between alleles

- Built a Python program that reads gene FASTA files and builds a nested dictionary correlating the gene to its official gene name, allele, DNA sequence and amino acid sequence (via aforementioned translation function)
- Utilized constructed dictionary to detect meaningful polymorphic differences between established and novel TCR V gene alleles to explore the relationship between TCR sequence and functionality

Providence College - Providence, RI

Biology Research Student

January 2020 - May 2021

- Individualized project under Joseph DeGiorgis, PhD to expand understanding of the role of amyloid precursor protein in squid retinal cells by detecting its associated presence to light-adaptive pigment granules and motor proteins via Western blot and confocal microscopy

Math Research Student

September 2019 - December 2019

- Student led research under Joanna Su, PhD to study categorizable surfaces in 4 dimensions via Cayley graphs and reflection and rotation groups

EDUCATION

General Assembly - Remote

Completed March 2023

Certificate

- Full-stack software engineering immersive student in an intensive 12-week program focused on product development fundamentals, object-oriented programming, MVC frameworks, data modeling, and team collaboration strategies.
- Developed a front end, back end, and 2 full stack applications in teams and individually in one week sprints6 among a portfolio and various coursework

Selected Technical Projects

Rec Drop - 02/2023 - GitHub | App - JavaScript | React | Express.js | Node.js | MongoDB

A full stack web app where users can create movie, TV, music, and book recommendations and create personal playlists

- Collaborated with small team in construction of a front end React SPA that communicates with a MEN stack back end via AJAX calls, allowing full CRUD functionality on media recommendations for JWT authenticated users and interaction via comments, likes, and playlists, as well as search and filter functionality
- Oversaw construction of front end, designed a simple yet exciting theme and layout, including responsive mobile design, and digitized artwork, icons, and logos to provide an engaging user experience

Wordle Clone - 12/2022 - GitHub | App - JavaScript | HTML | CSS

A Wordle-style app that allows users to select a difficulty, guess a secret word, and play as many rounds as desired

- Developed and designed a JavaScript app that selects a random word from a word list dataset and allows the user to input guesses while dynamically updating the game state and rendering guess accuracy to the user
- Increased usability and accessibility by allowing user to restart, toggle sound, and play multiple rounds

Providence College -Providence, RI

Graduated May 2021

Bachelor of Science in Mathematics & Biology

- Graduated Summa Cum Laude with cumulative GPA of 3.94
- Member of Pi Mu Epsilon Honor Society and Liberal Arts Honors College
- Highest Distinction in Mathematics Concentration; Highest Distinction in Biology Concentration
- Selected coursework: Computer Science, Linear Algebra, Abstract Algebra, Symbolic Logic, Cancer Biology, Genetics, Biomedical Ethics