

+ who

A big picture thinker that still sweats the details;

I'm optimistic about the future and want to spend my life making tools that will help build a better tomorrow.

+ what

Senior Software Engineer · Dewberry Engineering

2020 to Current

- Lead design and development of data-intensive applications used for geospatial analysis and planning:
 - Built a dynamic road assessment tool for the State of New Jersey to help prioritize infrastructure projects and planning.
 - Created an internal service that produces base elevation data for geospatial projects across company; pipeline crawls publicly available elevation datasets and updates PostgreSQL database to create a mosaic of best-available topographic data that can be queried, sliced, exported.
 - Designed pipeline to collect and analyze 50 billion real-time connected vehicle data points to assess evacuation activity during Hurricane Ian and inform disaster preparedness/urban planning studies.
 - Conceptualized and built a bespoke data management system, allowing users to search, tag, filter and export over 3.6 TB of data for the Texas General Land Office.
 - Overhaul the backend, pipeline, and user experience for State of Colorado's flood threat monitoring website that enables residents to check emergency weather status and projected impacts by location.
- Administrate company GitHub.
- Oversee and implement cloud computing strategy.
- Grew Computer Science and Informatics team into core business unit with 10 employees.
- Conduct code review and develop technical work-streams for junior employees.

Software Engineer · Dewberry Engineering

2018 to 2020

- Automate workflows and develop RESTful APIs for custom web applications and data processing pipelines.
 - Designed and implemented backend database and ETL operations for national boat and shipping traffic data, consuming and serving 8 billion points for public download and use.
 - Produced 5+ TB of high quality engineering data to act as the basis of the Commonwealth of Virginia's Coastal Resilience Master Plan. Refactored and deployed the frontend Coastal Resilience Web Explorer.
 - Architected a custom, web-map based dashboard for State Departments of Transportation to predict how flooding will impact transportation assets in real-time.
 - Conceptualized, developed, and deployed an open-source alternative to Yarkon S3.
- Lead organization-wide SWE community of practice.
- Establish Computer Science and Informatics team within organization

GIS Analyst · The Nature Conservancy

2016 to 2018

- Developed Colorado's first state-wide carbon sequestration baseline assessment using Python GIS libraries.
 - Utilized Markov Chains and Monte Carlo simulations to project sequestration into the future.

+ how

LANGUAGES

Go (Golang)
Python
SQL
Bash
TypeScript
JavaScript

FRAMEWORKS

React
Flask
Node.js
Webpack
RESTful APIs
web3.js
Django

TECH

Cloud Services (AWS, Azure, GCP)
Docker
PostgreSQL
Redis
Kubernetes
CI/CD
ElasticSearch

+ education

University of Denver
Bachelor of Science 2016

University of Colorado, Boulder
Master of Science Environmental Science 2017