CONNOR TLUCK

SOLUTION ARCHITECT

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A trained engineer with a creative approach to problem solving, I am an avid learner who always is trying to push myself to find the best possible solutions both for internal company needs and for client needs. Self taught programmer stemming from a need to optimize technology solutions in the civil engineering space, I have 3 years of experience as a solution engineer in the geospatial technology industry with my last year being primarily working a role on the solution architecture team targeting custom code based solutions for enterprise deals across industry verticals. My recent work experience has given me the chance to work with a wide variety of clients across engineering, real-estate, insurance, solar, government, and general commercial segments giving me a breadth of experience understanding very different customer needs and priorities.

Skills

ENGINEERING SOFTWARE AND TECHNOLOGIES

MicroStation
InRoads
ProjectWise
Bluebeam
Autodesk
Civil 3D
Infraworks
QGIS
ArcGIS Pro

CODING

Python
Acrpy
Pandas
Geopandas
Numpy
Sci-kit Learn
Sikit-Image
Pillow
OpenCV
Javascript
Nodejs

DATABASE, FRAMEWORKS, AND FRONT END

Folium
mapbox
Pgadmin
PYMongo/DBMongo
SQL
Openlayers
HTML
QTDesigner
Rest API
Flask
Heroku Deployment
OpenAI API
Supabase
Pinecone

AWS

S3
EC2
Lambda
cloudfront

Education

University of Connecticut, Storrs
Bachelor of Science Civil Engineering, 2016

Certification - Udemy, Complete Python Bootcamp — Jan. 2020 to Sept. 2020

Certification - Udemy, Python for Data Science and Machine Learning Bootcamp — Fall 2020 to Spring 2020

Certification - Udemy, Complete SQL Bootcamp — Fall 2020 to Spring 2020

Employment

Nearmap — New York, New york
Solution Architect — Aug. 2022 to Current

- Enterprise Solutions across multiple verticals including AEC, utilities, insurance, and solar.
- Full web application developments for Solution Architecture hub page, full content gallery viewer for sales enablement and transactional API front end.
- Development on Nearmap's first SDK for data download of imagery, 3D and AI content. Solutions contain asynchronous delivery to facilitate fast tile downloads as well as unit testing for seamless CI/CD. Automatic documentation updates enabled through sphinx.
- AI vector delivery for specifically insurance vertical in which large AI datasets needed to be delivered on a per parcel basis. Coverage script for point analysis deployed for previous client also integral at assessing the proposal cost estimates since charges were on a parcel basis.
- General API prototyping using flask and FastAPI, mostly for use with JavaScript front end services.
- Database management in MongoDB and DynamoDB connecting solutions to trackable products.
- Creation of industry specific demonstrations, leveraging previous knowledge but also building on a multitude of platforms including Esri, Autodesk, Bentley, Openlayers, Mapbox, and many others.

Nearmap — New York, New York
Solutions Engineer — Jan. 2021 to Aug. 2022

- Significant contributions to leverage industry knowledge to best build out the AEC value proposition and marketing strategy.
- Established the "full stack" data model for selling Nearmap data to the engineering space, an idea that firms in early design have a need for a consistent data source for high res orthoimages, 3D data, and vector AI in CAD drawing formats. This content stack allows for fast proposal creation and a reduction in time to source data.
- Experience in technical sales conversations to commercial and AEC industries, including technology, web mapping, machine learning, data science, engineering, architecture, site planning, solar and real estate.
- Responsibilities for proving product value, closing new business, up selling current clients and negotiating large enterprise agreements on a technical perspective.
- Developed workflows for improving internal processes including coverage analysis scripting, vectorization of raster content, and content delivery via full stack development.

HDR — New York, New York
Civil/Highway EIT — Sept. 2018 to Jan. 2021

- NYSDOT Kew Gardens Interchange Phase 4 Design Build Work Zone Traffic Control Team. Developed detailed staging layouts for a complex 5 stage interchange reconstruction project.
- Responsible for horizontal and vertical geometry design, 3D InRoads corridor modeling, plan development, and construction sequencing for multiple temporary alignments.
- Collaborated across disciplines including drainage, lighting, ITS, and structural to ensure constructible designs that met NYSDOT and RFP standards.
- Coordinated with highway, structural, retaining wall teams to address drainage conflicts and staging challenges.

HW Lochner — East Hartford, Connecticut
Civil/Highway EIT — Jan. 2016 to Sept. 2018

- Designed horizontal and vertical geometry for proposed roadways. Geometry was matched with design of proposed super elevation for traveled way and always made an effort to take into consideration design standards outlined by the DOT
- Established temporary staging for use during the construction phase in the form of pavement markings and temporary barrier. During this design phase, collaboration was essential with the rest of the design team and structures teams to ensure that all construction tasks could be conducted in a order that optimized time of construction, ease and cost.

HW Lochner — East Hartford, Connecticut
Civil Engineering Intern — May 2015 to Jan. 2016

- Produced proposed rail designs for Metro-North Railroad bridge crossings to address existing deterioration.
- Developed profiles, superelevation diagrams, rail tie spacing, and shipping layouts to meet MNR design requirements.

Projects

Personal Project - Solution Engineering ChatGPT Assistant

- Project leveraging the power of LLM technology to create a Solution Engineer based assistant using company public documentation to assist with internal queries on company technology and documentation requests.
- Webscrape module to read, parse and create embeddings for all external documentation, store in vector database for query later.
- Front end to test and run the question prompts. Backend running lambda functions for data processing in AWS.
- Question prompts do an embedding comparison against text snippets and take the user query answering with single shot injection model off the database, answering the users query and sourcing the answers when it can based on the stored documentation.
- work in progress, eventually progressing to create an automated upload model where users can upload and store large datasets for later use and sourcing.

Solution Architecture Projects · Current

- Conceptualized, developed and deployed Solution Architecture web app to serve as a hub for past projects and ongoing development efforts.
- Conceptualized developed and deployed content gallery hub hosting video library, Esri story maps, live 3d viewer gallery of mesh data via three.js, and a variety of live coded mapping framework examples with Mapbox, Openlayers, google maps and EsriJS.
- Conceptualized, developed and deployed front end web app to serve transactional API content for sales enablement efforts primarily for insurance vertical.

Contributor to Python Library Build out for Nearmap SDK

- Contributed to Nearmap's first Python Library build out to assist enterprise level clients across multiple verticals.
- Prototyped base modules specifically download of Orthoimage, DSM and AI datasets via various API endpoints.
- Coverage Analysis Scripts
- Powerline Vectorization Algorithm for Utility Clients

Orthoimagery Download Full Stack Application for Enterprise

- Full stack application, Python front end built with PYQT, PymongoDB connection for tracking.
- Critical to fill current product gaps found in current web application and wms api connection endpoints.
- Assisted with project tracking and area based pricing gaps through old system of tile reporting.

Roadway Best-Fit AI KNN Model

- Leverage Scikit Learn to run a horizontal classification model on roadway centerline point data.

Data Science Projects

- CitiBike Analysis
- Wordcloud Analysis
- Big Five Personality Test Analysis
- Diabetic Diagnosis Modeling

Engineering Projects

- Hampton Roads Bridge and Tunnel Design Build, Kew Gardens Interchange Design Build, I-405 Widening Project - Irvine, California, I-84 and I-91 Safety Improvement - Hartford, Connecticut, Town of Morris Bridge Rehabilitation - Morris, Connecticut, Metro North Rail Dapping - Connecticut