Brant Konetchy

33 Years

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BIO

I am an American originally from Austin, Texas. I am educated and trained as a hydrogeologist, but have always occupied a working role as a data analyst throughout all my positions. During my time as a hydrogeologist I was the technical lead for many of our projects as well as the GIS lead. Recently I have transitioned into the area of public transportation and mobility where I occupied a role as a GIS technician and data analyst. In both of those roles I worked heavily with mobility data and produced tools and analysis to increase our productivity internally and provide our clients insights on how they could improve their mobility systems.

As a data analyst I had to streamline the collection and processing of large datasets, model and analyze the results, produce graphics and maps, and be responsible for the final deliverable. Within all these processes our data always had geospatial elements, and our data always needed to be represented within the real world. Therefore I have extensive knowledge in handling GIS issues and problems, as well as developing the GIS capabilities. Within these roles I have always personally seen myself as a problem solver, and have approached my projects and learning with that mindset. For me learning more about new technologies, software, and methods is a means to solve new problems and extend my knowledge and skills.

EXPERIENCE

mib, Berlin, Germany — *Data Analyst*

May 2021 - September 2023

Analysis and visualization of transportation and mobility systems with focus on travel time and micro-mobility potential.

Baumgardt Consultants, Berlin, Germany — *GIS Technician*

August 2020 - June 2021

Creation and maintenance of interactive web maps and development of internal software to improve the production speed of geographic datasets.

WSP Deutschland, Berlin, Germany — *Project Hydrogeologist*

January 2019 - July 2020

Groundwater modeling and development of custom software for the visualization and analysis of groundwater systems and for spatial regulation of well locations.

WSP USA, Austin TX, USA — *Project Hydrogeologist*

January 2018 - December 2018

Modeling of groundwater systems and development of custom built software tools for clients to interact with and visualize complex

SKILLS

R – Programming language

Geospatial Information Systems (ArcGIS, QGIS)

Github

GTFS

Other Software languages:

Python, JS, HTMl, CSS, Bash

Microsoft Office

LANGUAGES

Fluent English (writing and speaking)

German (B1)

WEBSITE

www.bkonetchy.com

groundwater datasets.

LBG-Guyton Associates, Austin TX, USA — *Hydrogeologist I/II*

November 2014 - December 2017

Analysis of spatial groundwater data with focus on producing graphics, tables, maps, reports, and statistical summaries of data.

EDUCATION

The University of Kansas, Lawrence, USA — *Master of Geology*

August 2012 - August 2014

Master Thesis - "High-resolution quantification of groundwater flux using heat as a tracer: laboratory sandbox tests"

GPA: 3.94

Trinity University, San Antonio, USA — *Bachelor of Science in Geoscience*

August 2008 - May 2012

Undergraduate Thesis - "Evidence of minor post-depositional displacement of the Methow Basin, Northern Washington: Detailed provenance analysis of the Harts Pass Formation"

GPA: 3.28

PROFESSIONAL EXPERIENCE

Münchner Verkehrs- und Tarifverbund — *mib, GER, 2023*
Development and execution of potential score analysis for micro-mobility within the MVV region. A major component of the study was the travel time analysis that compared public transportation against car and intermodal transportation. Key product was an interactive dashboard that visualized the results of the entire project. Project was featured in the magazine DER NAHVERKEHR "Eine datengetriebene Potenzialanalyse für Mikromobilität im MVV-Raum".

VRR/go.Rheinland — *mib, GER, 2022-2023*
Creation of data-based mobility studies through visualization of transport networks and data sets. Two major analyses performed were, a travel time analysis comparing public transportation to cars, and an accessibility analysis that looked at multiple important POIs in the area and calculated how accessible they were within the region. Key deliverable was the development of over 40 unique interactive web maps. Development and hosting of website was all performed in house.

Kölner Verkehrsbetriebe AG — *mib, GER, 2022*
Carried out data analyzes to optimize public transport services including analysis regarding transport quality, accessibility, and travel time comparisons between public transport and cars. Created internal tools to visualize travel time results to allow our team to quickly determine where

improvements could be made to the current network. Created different bus lines within PT VISUM to produce multiple potential scenarios based on various changes to the current bus network.

Mataró — *mib, GER, 2022*

Created a custom demand model to compare the existing bus network with a new bus network to estimate the demand increase within the city of Mataró. The demand model incorporated captured population, frequency, and speed of each route to determine how many people could use each bus line and how attractive each bus line offer was. Was calibrated to current demand to calculate a series of variables that could be used in the new network to estimate how demand would change.

Travel Time Analysis — *mib, GER, 2021*

Study on travel time comparison car mobility/public transport (mib): Tool development for comparing travel time results between public transport and cars. Tasks included:
- Improve existing code base for faster results.
- Creation of a refined grid approach to collecting POIs.
- The tool covered multiple cities within Germany and required the ability to process and extract data and information from multiple GTFS feeds.
- Results were featured in newspapers and articles throughout Germany:

Custom GIS Tools — *Baumgardt Consultants, GER, 2020*

Focused on the optimization of the GIS departments workflow to improve the speed of project deliverables by several days. Developed several custom scripts that were incorporated directly into QGIS to allow easy accessibility to the entire team. Created a dashboard for processing GTFS datasets that allowed for customization, comparison, and edits to the original dataset.

Well Spacing Tool — *Prairielands Groundwater Conservation District, Texas, 2019*

Developed and coded an interactive dashboard within R coding language that allows the client to perform a series of well spacing (distances from other groundwater wells) calculations to determine if new wells would be in compliance with the district's rules. The tool allows the user to simply click on a location in the interactive map, input the desired pumping rate and aquifer, and the tool will calculate the drawdown at nearby wells and property boundaries. The tool then produced an automated report detailing the results through graphs, tables, and maps. Development involved centralizing multiple disparate databases and data types (shapefiles, text files, binary files, etc.) into a single program that could then interact with the data to produce the necessary results.

Groundwater Network Design Evaluation —Southwest Florida Water Management District, *Florida, 2016*

Responsible for the spatial analysis of a groundwater monitoring network system to evaluate how effective the system was in measuring water level data. Developed code in python and using ArcGIS to produce a series of maps and analysis of the current monitoring system by measuring key

parameters. Systematically well locations were removed from the system along with their data, and the spatial analysis was repeated and key parameters were measured. Each step reduced the number of wells in the system and the key parameters were measured to determine when the system no longer produced the desired results. Client was able to use the report to help identify locations that required additional monitoring wells, and locations that no longer needed to be monitored.

DFC Tool — *Clearwater Underground Water Conservation District, Texas, 2017*

Responsible for developing a web-based tool using R that allows for the client to have an interactive and up to date interface that evaluates current and historical water level trends in their district. The tool is used to evaluate current water level trends against long term trends to help the district manage their groundwater resources in a visual format. Multiple methods were incorporated to allow the district to evaluate the effect of different initial conditions and calculation methods. Incorporated both well by well analysis and large scale aggregate interpolation of water levels within the district using geostatistical methods.   Presented the tool at the Districts board meeting.

Groundwater Model Update — *San Antonio Water Supply and Glen Rose Conservation District, Texas, 2017 - 2019*

Responsible for updating and calibrating an existing groundwater model to focus on a smaller region within the larger model. Model refinement involved restructuring time series data into a monthly time period, as well as interpolation of datasets to a refined spatial grid. Calibration involved matching known values against modeled values to ensure the model was performing adequately. Data analysis focused on the gathering and manipulation of multiple data sets and types for pre-processing and analysis. Processing the datasets into structured format that could be read into a FORTAN environment, as well as producing a series of graphs, maps, and tables that summarize the data that would be going into the model. Modeling analysis focused on the reading and extracting of results from the model. Post-Processing analysis was automating the results to quickly produce a series of graphs showing the results along with a series of maps showing the results through time. Responsible for the written report and two presentations to the clients.

Statistical Evaluation of Springflow within Cibilo Creek — *Clearwater Underground Water Conservation District, Texas, 2017*

Performed a multivariate linear analysis to determine what input values could be used to predict streamflow discharge at Cibilo creek. The analysis looked at multiple variables such as groundwater levels, rainfall gauges, and drought index values. Analysis involved determining both the spatial and temporal relationship between the input variables and the

discharge location at Cibilo creek. The results of the analysis showed that the district could use three different wells water level measurements to be able to estimate the discharge rate at Cibilo creek.

Groundwater Model Predictive Analysis — *Texas, 2017 - 2019*

Responsible for a yearly update on a groundwater model predictive evaluation. Update current groundwater level data and well pumping for each year, and then perform a predictive run to evaluate long term groundwater trends. Analysis focused on visualizing both the regional and cumulative effect of the different pumping scenarios on groundwater levels, and also local effects at each well. Project highlight was reducing a complex model into easy to understand and informative graphs, that allowed the client to quickly comprehend the results of the model and how the model was working.