

TRAVIS G. BOLTZ

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EDUCATION & CERTIFICATIONS

Illinois Institute of Technology, Chicago, IL

Dec 2020

Master of Data Science, GPA 3.8

Drilling Engineers of the Future

Aug 2013

Coiled Tubing Drilling Engineer

United States Military Academy, West Point, NY

May 2007

B.S., Environmental Engineering, Dean's List each semester, GPA 3.26

Fundamental Engineering Exam

May 2007

EXPERIENCE

Data Science Skills & Projects

- Data Simulation
- Machine Learning
- Data Visualization
- Natural Language Processing
- Cloud Computing
- Computer vision
- Machine Learning
- Python, Pyspark, Linux,R and Java
- Generative AI/LLMs
- Amazon AWS , Azure and Hadoop

Independent Consultant

Data Science and Strategic Project Consulting

September 2023 to Present

- Pro Bono University Project Consultant: Volunteered expert analysis and strategic planning services to a major university project. Facilitated enhanced project outcomes and propelled forward key initiatives through effective leadership and application of data science methodologies.
- Real Estate Data Science Developer: Engineering and implementing a custom data science solution for a small real estate firm, which significantly augmented their data-driven decision-making process and operational efficiency. Utilized machine learning, predictive analytics, and data visualization to craft a user-friendly platform for real-time market analysis.

Stefanini-Data Scientist II, Innovations

July 2021 to Aug 2023

As an Innovations Data Scientist, it centered around exploring cutting-edge technologies, developing advanced models, and creating transformative solutions that drive the organization's growth and competitive edge using data engineering for big data, data pipelines, generative AI, NLP, and computer vision. Involved researching emerging trends and a passion for experimentation and implementing data-driven strategies that lead to impactful business outcomes. Experienced in developing solutions using NLP, computer vision, machine learning, and generative AI.

- Implemented first AGI enterprise level NLP solution to read , summarize, categorize to reduce a large corpus of IT ticket descriptions to simple and readable categories.
- Created a facial recognition algorithm using computer vision techniques using only 50 images
- Created a computer vision model that could track people, forklifts and danger zones on a warehouse floor using minimal training data
- Created a computer vision model that tracks and counts cars in a parking lot
- Created Azure Databricks pipelines to feed a dashboard tracking software and hardware issues in real-time
- Created a support-vector machine NLP model to categorize IT descriptions in a single day
- Developed time-series algorithm to warn clients of major outage using ticket data.

IIT Physics Department Research Assistant

May 2018 to Aug 2018

Analysis of Extended X-ray Absorption Fine Structure (EXAFS) Data Using Artificial Intelligence Techniques

Objectives were to use an application that utilized web scraped data to simulate an Extended X-ray Absorption Fine Structure test. revealing the structure of sample molecules.

- Creation of a Python script to web-scrape data from two websites, and a Linux shell script that would execute a extremely complex physics calculation called "FFEF". The output of this is to be used for future Artificial Intelligence techniques to determine the structure sample of molecules.
- Progressed the project forward with little guidance and a limited background understanding of the subject matter.
- Initiated a research project to determine feasibility for future calculations

Coiled Tubing Drilling Engineer

Responsible for developing, planning, and coordinating with cross-functional teams made up of Geologists, Production Engineers, and Petrophysicists for operations necessary to drill economically successful wells with Coiled Tubing Drilling Rigs in the Prudhoe Bay for BP Alaska Exploration.

- Planned, designed, and operated ten wells that aligned with BP's business design in capital expenditure in excess of \$3mil.
- Developed a new method for running, cementing, and logging a 3-1/4" liner in one run saving time and \$90k per well.
- Coordinated, planned and milled the first successful composite shoe track for a 3-1/4" cemented intermediate liner saving over 20 hrs and \$400k from previous methods.
- Proactively developed and analyzed project financial reports for the Wells Organization that were previously non-existent. The reports were used at the highest level in the Wells Organization in Alaska to provide financial projections to BP Global. Development of the reports was an individually driven endeavor that required minimal supervision or direction.
- Subject Matter Expert in the Wells Organization in utilizing database tools to develop accurate financial analysis for projects.
 - Interpreted log and sensor data to make significant financial and safety decisions.
- Rotated to a variety of oil fields in Texas, Alaska, Wyoming, and Northern Alberta

United States Army- Officer**May 2007 to Jun 2012****Quality Control & Compliance Manager- US Army Corps of Engineers****Sep 2010 to Jan 2011**

Oversaw the execution of multiple engineering projects managed by the Corps of Engineers. Ensured outside engineering/construction companies followed their contractual obligations and adhered to relevant safety/environmental regulations.

- Supervised from start to finish a beach nourishment project that mitigated the erosion of Lincoln Park, WA.

Platoon Leader Sep**2008 to Mar 2010**

Led and deployed with a reconnaissance platoon in a Reconnaissance, Surveillance, and Target Acquisition Squadron in support of Operation Iraqi Freedom. Responsible for the discipline, welfare, and combat readiness of 20 subordinate leaders and soldiers as well as the accountability, maintenance, readiness, and tactical employment of 4 Stryker combat vehicles valued in excess of \$10 million.

- Developed such a strong relationship with the most powerful tribal leader and was personally credited by my Squadron Commander for the relative peace in our Area of Operations.
- Served as the Squadron HAZMAT Officer, overseeing the safe and efficient handling of hazardous materials for shipping to Iraq from 2009 to 2010. Recognized for exceptional performance in this role, completing essential tasks in one-third the usual time, significantly contributing to the brigade's readiness and timely deployment of equipment.

Publications

Jeff Terry, Miu Lun Lau, Jiateng Sun, Chang Xu, Bryan Hendricks, Julia Kise, Mrinalini Lnu, Sanchayni Bagade, Shail Shah, Priyanka Makhijani, Adithya Karantha, Travis Boltz, Max Oellien, Matthew Adas, Shlomo Argamon, Min Long, and Donna Post Guillen, "Analysis of Extended X-ray Absorption Fine Structure (EXAFS) Data Using Artificial Intelligence Techniques," Applied Surface Science 547, 149059 <https://doi.org/10.1016/j.apsusc.2021.149059> (2021).

