

ANNA NYULUND
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EDUCATION

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| 2019 – 2020 CERTIFICATIONS | AUSTIN, TX |
| OpenCV Computer Vision I-IV | |
| 2018 – 2018 UNIVERSITY OF WASHINGTON | SEATTLE, AK |
| Graduate certifications: data structures, NLP, data engineering | |
| 2012 – 2015 UNIVERSITY OF ALASKA FAIRBANKS, COLLEGE OF ENGINEERING AND MINES | FAIRBANKS, AK |
| Master of Science, Petroleum Engineering SPE member, Drilling Team Graduate Lead, Estimating Uncertainty in Reservoir Engineering and Completions Thesis (Monte-Carlo simulation, ARIMA for reserves estimation, design of experiments to determine fracture conductivity using R), graduate teaching assistant in statistics | |
| 2005 – 2010 THE UNIVERSITY OF TEXAS AT AUSTIN, COCKRELL SCHOOL OF ENGINEERING | AUSTIN, TX |
| Bachelor of Science, Aerospace Engineering AIAA member, Satellite Navigation Team member, Design Build Fly Team member, Self-Driving Lunar Rover Undergraduate Research Assistant, Texas2STEP member Natural Language Processing (NLP) research (took a graduate CS NLP class at UT Austin in 2019 where I developed Deep Averaging Network to perform sentiment analysis in Pytorch and Python 3.7) | |

EXPERIENCE

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| 01/18 – Present FREEMIND TECHNOLOGY, LLC AND OLEUM SCIENTIA | HOUSTON/ AUSTIN, TX |
| MACHINE LEARNING/DATA SCIENCE PRODUCT MANAGER /STRUCTURAL, PETROLEUM AND SOFTWARE ENGINEER | |
| <ul style="list-style-type: none">• Fraud Detection• Natural Language Processing• Forecasting• Time Series• Database Mapping• Risk Optimization and Management• Operations Management• Scientific Project Management• Computer Vision• Setting up and coaching on different project completion methods from the beginning to finish in Data Analytics, Data Science and Engineering | |

04/19 – 08/19 **RIGUP (CONTRACT)**

AUSTIN, TX

DATA ANALYST/ DATA SCIENTIST

- Rewrote and optimized views of the whole data warehouse in 2 months.
- Built Deep Averaging Network performing polarity semantic analysis in contractor reviews
- Debiased word embeddings using Scikit learn library using cosine similarity functions
- Implemented debiased word embeddings instead of GloVe
- Mapped a whole database using ERDs
- Coded up a file sorter by extension type and a text extractor from PDFs, images, doc and modern Word files
- Performed resume parsing using custom-built NER engine on top of Python Spacy
- Coded up a resume key matcher in Python
- Interviewed and selected junior analysts for the Data Science team

02/17 – 04/19 **DATAJUDO (CONTRACTS)**

HOUSTON, TX

SENIOR DATA SCIENTIST

Royal Dutch Shell Oil Company:

- Successfully completed an optimization of a Petroleum Producing Assets Portfolio: Advanced Computer Model Development (Python).
- Simulated distribution of reserves and a set of expected production profiles using Monte-Carlo Analysis.

Chevron Corporation:

- Developed petroleum price forecasts based on Sequential Gaussian Simulation.
- Calculated after tax cash flows, estimated performance indicators for each realization, thus yielding distribution of return for each project.
- Estimated covariance between return distributions of individual projects and compiled them into portfolios.

04/17 – 10/17 **SENSOLEAK (CONTRACT)**

HOUSTON, TX

SENIOR DATA SCIENTIST

- Advised the CEO on setting up operations in the USA and building a local Data Science team, helped selecting potential hires, conducted the interviews and mentored junior Data Scientists and Engineers.
- Managed the workload, scheduled the assignments and deadlines based on the expertise of the team members and conducted the interdisciplinary business meetings between the clients and the team members.

09/17 – 12/17 **USAA (CONTRACT)**

SAN ANTONIO, TX

DATA ARCHITECT

- Built behavior based machine learning models to identify fraud. Wrote a code testing FICO model performance using Kolmogorov-Smirnov statistics, Area Under the Curve (AUC), Receiver Operating Characteristic (ROC) and Population Stability Index (PSI). Built Convolution Neural Network (CNN) prototype in Python NumPy and then in Keras Tensorflow, which predicted the number of transactions based on the customer's qualifications. Improved Exploratory Data Analysis by implementing Apriori Algorithm to find Association Rules in customers data using Python.

09/16 – 02/17 **PARSLEY ENERGY CORPORATION**
SPOTFIRE ENGINEER/DEVELOPER/ADMINISTRATOR

AUSTIN, TX

- Developed Data Analytics Lifecycle and Project Request Process for Spotfire
- Provided support for the development of production and reservoir databases for Investments department
- Used data functions in Spotfire (TERR, R) to develop decline curve analysis using time series (ARIMA) and to set up a system of alerts to identify problematic wells
- Used logistic regression to predict pump failures
- Developed Arps Curves code for production forecasting in Spotfire and Aries
- Developed Tableau to Spotfire dashboards for (LOE) Lease Operating Expenses in operations and reservoir departments
- Developed advanced code (Iron Python, SQL) and automated dashboard for Business Intelligence department

01/16 – 08/16 **DEVON ENERGY CORPORATION**
DATA SCIENTIST – INTEGRATED RESERVOIR CHARACTERIZATION

OKLAHOMA CITY, OK

- Provided assistance in decision making process for acquisitions and divestments as a member of Integrated Reservoir Characterization team
- Used machine learning (clustering) in SAS Enterprise Guide on petrophysical logs to determine intermittent sedimentation
- Used regression model in SAS Miner to determine corrosion in casing for completions
- Used text analysis to determine production costs due to stuck coiled tubing units and collapsed casing
- Used ARIMA model in Enterprise Miner to predict oil/gas production then verified with Aries model
- Developed dashboards for above projects in SAS VA, Tableau and Spotfire to present data to the project requesters in comprehensible manner
- Developed a proposal of adapting data based approach to optimize reservoir/engineering processes
- Managed, maintained and analyzed large amounts of data

05/14 – 06/15 **SCHLUMBERGER INFORMATION SOLUTIONS**
RESERVOIR ENGINEER (Intern, then contract)

HOUSTON, TX/ANCHORAGE, AK

- Performed in-depth investigations of reservoir and production data problems employing statistical skills and developed predictions
- Developed and delivered synthesized predictive research findings that incorporated multiple business operational databases and provided tangible business insight
- Used analytics and data to understand business KPIs and developed ways to extend them towards increasing fidelity or insight
- Worked collaboratively across multi-functional teams focused on enterprise data, data quality, business intelligence, operational data and enterprise resource planning integration to deliver innovation based on data driven insights

05/13 – 08/13 **CHENIERE ENERGY**
OPERATIONS AND TECHNICAL AUDIT (INTERN)

HOUSTON, TX

- Conducted technical audit process in engineering and construction and operations
- Brought systematic, disciplined approach in identifying operational and technical risks and their mitigation

- Accomplished assignments on well planning and anti-collision monitoring (COMPASS, Planit, INSITE)
- Calculated projections to bit, TVD at bit and build rates needed to achieve project well path to target

ADDITIONAL INFORMATION

• **Skills:**

- o Programming languages: Python (Scikit Learn, Pandas, Numpy, NLP packages, Seaborn, matplotlib), R, SAS, Matlab, C++, Excel VBA
- o NLP:
 - NLP packages - Gensim, PyTorch, Spacy, NLTK, Flair
 - NLP Modeling – Semantic analysis (DAN, LSTMs, encoder-decoder models, BERT (prepackaged), parsing of unstructured and semi-structured data (NER (advanced), Regex expressions (beginner), Topic modeling (Gensim)
- o Computer vision: OpenCV, Tesseract (OCR)
- o Data querying languages: SQL, Hadoop Hive, PostgreSQL
- o Document Editing Software: Microsoft Office, Latex, Visio
- o Big data: Hive, Hadoop HDFS, Scala (beginner), Kafka (KSQL)
- o Data Engineering: Docker (beginner), SQL, ERD drawing (LucidChart)
- o Lifecycles: SEMMA, KDD, CRISP-DM, Agile(intermediate)
- o Modeling: SPSS, SAS Miner, Python, PyTorch, Matlab
- o Business Intelligence Reporting Tools: SAS VA, Tableau, Spotfire, Power BI
- o Machine Learning and Statistical Analysis Models deployed: Neural Nets (CNN, RNN, LSTM, DAN), Linear Regression, Logistic Regression, Auto-Regressive Moving Average (ARIMA), Isotonic Regression, Random Forest, Decision Trees, Backpropagation, Principal Component Analysis, Design of Experiments, K-means clustering algorithm, Ward's clustering algorithm, Monte-Carlo Analysis, Stochastic Gradient Descent, Adam, experimented with Extended Kalman Filter (beginner).
- o Petroleum Engineering Software: Petrel, Petrel RE, Mangrove, ECLIPSE, CMG
- o Aerospace Engineering Software: Copernicus
- o Structural Engineering Software: ABAQUS, SolidWorks, Catia
- **Languages:** English, Russian (fluent)
- **Hobbies:** outdoor cycling, running, Wim Hof, dog training, flying single prop airplanes