# ZELONG (ERIC) ZHANG

Seattle, WA | er1czz.github.io | linkedin.com/in/zhangzelong | zhangzelong@protonmail.com

Data scientist with 5+ years in computational modeling and data analysis. Experienced at applying machine learning and statistical models to improve user experience and decision-making.

## SKILLS

**Programming**:   Python, Bash, High-Performance Computing (HPC, AWS), SQL, Tcl, HTML, CSS
**ML libraries:**   pandas, NumPy, scikit-learn, Matplotlib, Bokeh, statsmodels, NLP, TensorFlow
**Quantitative:**   Statistics & Probability, Linear Algebra, Multivariable Calculus, Optimization Methods

## EXPERIENCE

**AI Data Scientist,** Change Healthcare, Seattle, WA                                          Jan 2021 – Present
· Build AI-first platforms to improve clinical claims and revenue management for healthcare systems

**Intern,** Ongo Science Inc, San Francisco, CA                                          Sep 2020 – Oct 2020
· Developed a predictive model to forecast user churn in THE RUN EXPERIENCE ™, a fitness app
· Fined-tuned NLP BERT model by hand-labelling to extract text sentiment ($F_1$ 0.89)
· Provided a 4-week time window for Ongo to engage users at high risk of churning (AUC 0.87)
· Performed descriptive analysis to estimate customer lifetime value using time-series data

**Reviewer**, NeurIPS, Machine Learning and the Physical Sciences                            Since 2019

**Trainee**, Deep Learning Summer School, Lawrence Berkeley National Laboratory           Jul 2019
· Obtained hands-on experience of TensorFlow 2.0 on high-performance computers

**Research Assistant**, Geology & Geophysics, Louisiana State University           Sep 2014 – Aug 2020

Predict material formation of binary systems using machine learning algorithms
· Applied a stacked ensemble (Random Forest, LightGBM, Naïve Bayes, etc.) to improve prediction
· Identified 18 key features, improved model prediction by 38%, accelerated materials discovery

Forecast environmental degradation rates of nuclear waste materials using regression analysis
· Developed predictive models using time-series data to improve nuclear materials disposal safety
· Produced an award-winning short film showcasing cross-team synergy (US Dept. of Energy 2019)

Identify optimal condition for shale oil extraction using molecular modeling on HPC
· Investigated oil recovery from shale nanopores using molecular dynamics simulations
· Generated and analyzed data on the scale of terabyte to predict optimal temperature and salinity

**Teaching Assistant**, Geology & Geophysics, Louisiana State University           Jan 2020 – May 2020
· Produced lab lecture videos for 15 non-major college students to continue their study remotely
· Re-designed lab courses and built a website on GitHub hosting class materials for remote access

## EDUCATION

**Ph. D. in Computational Geochemistry**, Louisiana State University, Baton Rouge, LA           Sep 2020
Dissertation: Investigating Geochemical Processes on Materials Related to Energy and Environment
· Honor, Leadership LSU (2015)

**M. Sc. in Geochemistry**, Stony Brook University, Stony Brook, NY                            May 2014
**B. Sc. in Geochemistry**, China University of Geosciences, Wuhan, China                            Jul 2010