Zora Zorkic

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EDUCATION

The University of Texas at Austin, Austin, TX   **May 2024**
  - **M.S. in Data Science**

The University of Texas at Austin, Austin, TX   **May 2022**
  - **B.S. in Computational Biology**, Computer Science Minor (UT), Certificate in Biotechnology (ACC)

PROFESSIONAL EXPERIENCE

THERMO FISHER SCIENTIFIC, San Diego, CA   **Jul 2022 – Present**
Artificial Intelligence Engineer   (Jan 2023-Present)
  - Developed and deployed a conversationally intelligent, company domain chatbot to expedite internal information retrieval projected to bring $50 million in annual savings
  - Designed and maintained PostgreSQL database to hold millions of pages of unstructured text data, question/answer history, and other metadata
  - Established contracts and relationships with business units across the company to collect millions of pages of unstructured text data from company documents
  - Tested the effects of several different embedding models on document retrieval performance

Machine Learning Engineer   (Jul 2022-Dec 2022)
  - Developed a python API for a cloud-based machine learning inference pipeline for detection of anomalous curves in qPCR diagnostic assays using AWS Lambda and AWS Sagemaker
  - Designed a short term time-series anomaly detection algorithm using an ensemble of Machine Learning, Deep Learning, and Algorithm techniques and deployed the pipeline on AWS; received research incubation funding
  - Built data analysis dashboards using Plotly Dash

GENENTECH, San Francisco, CA   **May 2021 – Aug 2021**
Computational Scientist
  - Created a user-friendly R Shiny app that explores cell communication in tumor microenvironments
  - Enhanced a data analysis pipeline to measure immunotherapy antibodies, improving speed and efficiency by over 100%
  - Collaborated with international partners to establish a standardized lab workflow for the analysis pipeline

TEXAS INVENTIONWORKS, Austin, TX   **Jan 2019 – Jul 2022**
Software Engineer   (Aug 2020 - Jul 2022)
  - Oversaw 6 front-end engineers in the development of our customer service website texasinventionworks.com
  - Learned front-end web development in just 3 months

Design and Fabrication Engineering Lead   (May 2019 - Aug 2020)
  - Developed trainings and standard operating procedures for advanced manufacturing equipment, reaching thousands of students, staff, and faculty
  - Directly oversaw 12 employees, lead weekly meetings, and coordinated Design and Fabrication projects

HIGHLIGHTED SKILLS

Programming: Python (pandas, NumPy, PyTorch, TensorFlow, scikit-learn, spaCy, nltk, Plotly Dash), R (Tidyverse, RShiny), SQL, Docker, Git, AWS, HPC, Big Data, Software Engineering, Product Development, DataBricks

Data Science: EDA, Statistical Learning, Regression, Classification (KNN, SVM, Naive Bayes, Random Forest, XGBoost), Clustering (K-means, Hierarchical), Dimensionality Reduction (t-SNE, UMAP, PCA), Deep Learning, NLP (LLMs, Sentiment Analysis, Topic Modeling, Text Classification), Data Governance, Databases

SELECTED PUBLICATIONS, AWARDS, & PRESENTATIONS

- **Author: Zorkic, et al., Cloud-based Machine Learning Inference Pipeline for Anomaly Detection of qPCR curves. 2022. ThermoFisher Scientific Innovation Day Conference 2022.**
- **Co-Author: Javanmardi, et al.. Rapid characterization of spike variants via mammalian cell surface display. 2021. Molecular Cell Volume 81, Issue 24, Pages 5099–5111.**
- **Winner:** 1st, 2nd, & 3rd place @ ThermoFisher Scientific Genetic Science Division 2022 Hackathon.
- **Fellowship:** D.E. Shaw Research Science and Engineering Fellowship - Computational Biochemistry
- **Scholarship:** Houston Livestock Show and Rodeo Metropolitan and Achievement Scholar
- **Scholarship:** Texas Association for Education and Rehabilitation of the Blind and Visually Impaired Student of the Year
- **Scholarship:** Lois Ford LaBauve Scholarship for Visually Impaired Students

RESEARCH EXPERIENCE

THE MARCOTTE LAB, Austin, TX   **May 2021 - Dec 2021**
Machine Learning Research Scientist
- Assisted in the development of a tool that uses a Convolutional Neural Network to identify all proteins in samples using cryo-EM Images and Mass Spectrometry data
- Established a standardized workflow to run AlphaFold2 jobs in High Performance Computing Environments

THE FINKELSTEIN LAB, Austin, TX   **Jan 2020 - May 2021**
Bioinformatics Research Scientist
- Developed an Exploratory Data Analysis pipeline to analyze 1 million SARS-CoV-2 patient protein sequences to find mutational patterns
- Engineered easy-to-use software tool for high-throughput creation of synthetic DNA libraries such and cloned constructs into cells for SARS-CoV-2 spike protein display project

THE ELLINGTON LAB, Austin, TX   **Jan 2020 - May 2021**
Synthetic Biology Research Scientist
- Genetically engineered Retron-CRISPR chimeras for applications in clinical gene editing
- Developed modular cloning toolkit for easy and efficient Retron modification using Golden Gate and Gibson Assembly

MINICIRCLE INC., Austin, TX   **Aug 2019 - Jan 2020**
Gene Therapy Research Scientist
- Aided in the development of a minicircle based platform for affordable protein gene therapies
- Taught interns basic laboratory skills such as buffer preparation, sterile technique, and bacterial cell culturing

THE UNIVERSITY OF TEXAS AT AUSTIN, Austin, TX   **Jan 2019 - Dec 2019**
Howard Hughes Medical Institute Research Fellow
- Developed gene amplification diagnostic assays that minimized diagnostic times for Malaria, TB, Enterococcus, and Tick Borne Illnesses to 30 minutes using Isothermal Loop Mediated Amplification
- Engineered a low-cost diagnostic box to run assays and map outbreaks in remote areas using PCB design and 3D modeling

INTERESTS

Creative Technologies, Makerspaces, Community Involvement, Cooking, Yoga, International Music, Golf