

Alexander Kelly

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EDUCATION

The University of Texas at Austin | Bachelor of Science, Geological Sciences (Hydrogeology)

May 2024

Overall GPA: 3.66/4.0

Certificates in the Elements of Computing & Computational Science and Engineering

Minor in Business Foundations

RELEVANT COURSEWORK

Software Engineering | Computer Networking | Geostatistics and Data Analytics | Elements of Software Design | Numerical Methods

RESEARCH PROJECTS

Incorporating the Fast Fourier Transform into a Deep Learning Algorithm | Machine Learning Research

Summer 2024

Research project supervised by Dr. Maša Prodanović focusing on incorporating the Fast Fourier Transform (FFT) into an existing machine learning framework, resulting in higher accuracy and more interpretable and distinguishable results

Designed and created open-source model hosted on the Digital Rocks Portal using the Texas Advanced Computing Center (TACC) supercomputer system

Physical and Chemical Hydrogeology of a Barrier Island in the Yucatan Peninsula | Hydrogeology Research

Fall 2023

Computed tidal effects on groundwater of a residential barrier island in Quintana Roo, Mexico, to assess vulnerability and accessibility
Complete three days of fieldwork on a remote island, gathering data to allow for both chemical and physical characterization of the island's groundwater resources

Presented a poster to the attendees at the 2023 meeting of the American Geophysical Union in San Francisco

WORK EXPERIENCE

Groundwater Modeler | Intera Inc.

September 2024 – Present

Compile, synthesize, and analyze data to develop conceptual site and numerical models for groundwater flow and transport projects

Perform numerical flow and transport modeling of subsurface systems under the direction of senior staff

Create inputs and post-process results from groundwater models, evaluating outputs for accuracy and reliability

Support in the preparation of technical reports and presentations for clients, regulators, and stakeholders

Undergraduate Research Assistant | Critical Zone Geophysics Lab Manager

January 2024 – June 2024

Collected bi-weekly field measurements, including e-line, neutron probe, and soil gas measurement collection, to develop an understanding of the vadose zone on the White Family Outdoor Learning Center

Maintained and contributed to the database of vadose zone research data to ensure accuracy and prepare data for use

Aided in the coordination of installation of VMS apparatus for vadose zone gas research by procuring necessary gear and materials

The University of Texas at Austin | Earth Science Sustainability Learning Assistant

January 2023 – May 2023

Communicated various aspects of geoscience, including feedback loops and hydrogeology to a group of 59 students from a variety of technical and non-technical unrelated to geoscience backgrounds

Evaluated students understanding of the material through a variety of metrics, including clarity, correctness, and thoughtfulness

Davenport Builders | Project Management Intern

May 2021 – May 2024

Created systems integrating Excel and third-party software programs to enhance communication and efficiency

Worked with clients over 22 project to build cost-benefit models to ensure maximum return on investment for construction projects

Created a pricing database accounting for material and labor costs to increase the efficiency and accuracy of project estimate resulting in an decrease average bid time by 60%

LEADERSHIP EXPERIENCE & ACTIVITIES

American Academy of Environmental Engineers and Scientists | VP of External Affairs

April 2022 – January 2024

Coordinated activities and presentations with companies and researchers dedicated to environmental concerns

Aid in organizing and managing a community with over 50 students

KBH Energy Center | Student Advisory Council Member

June 2022 – July 2022

Represent the KBH Energy Center as an ambassador, embodying its values and mission regarding the importance of the energy sector

Engaged in KBH Energy Center events, treks, and conferences, fostering networking and learning opportunities

ADDITIONAL SKILLS

Computer Skills: Python, ArcGIS, TensorFlow, PyTorch, Git/GitHub, Pandas, Unix, MATLAB, ArcGIS, Java, SQL

Certifications: Microsoft Office Suite, Foundations of Project Management, Renewable Energy and Green Building Entrepreneurship