Qi Zeng

Berkeley, California   qi_zeng@berkeley.edu   Q1Zeng.github.io

Education

Master of Engineering in Computer Science   Aug. 2023 - May 2024
University of California, Berkeley   Berkeley, California, U.S.
- GPA: 3.95/4.0
- Concentration: Data Science and Systems

Bachelor of Science in Mathematics and Computer Science   Aug. 2020 - May 2023
Georgia Institute of Technology   Atlanta, Georgia, U.S.
- GPA: 3.88/4.0
- Graduated with highest honors
- Computer Science Concentration: Intelligence & People
- Mathematics Concentration: Statistics & Probability

Undergraduate Coursework in Mathematics   Aug. 2019 - Aug. 2020
University of Florida   Gainesville, Florida, U.S.
- GPA 3.86/4.0
- Transferred to Georgia Institute of Technology in August 2020

Research

Research on Deep Learning on Time Series   Sep. 2023 - Present
University of California, Berkeley   Berkeley, California, U.S.
- Working on a capstone research project on deep learning with time series. Implementing several neural network experiments with pretrained models for time series forecasting to outperform the prediction made by GPT-powered Large Language Models.

Competitive Physics Informed Neural Network   Sep. 2021 - Jan. 2023
Georgia Institute of Technology   Atlanta, Georgia, U.S.
- Implemented a new network structure (with PyTorch and TensorFlow) to incorporate a Generator-Discriminator framework into **P**hysics **I**nformed **N**eural **N**etworks to solve partial differential equations for higher accuracy. Mentored by Prof. Florian Schäfer and Prof. Spencer Bryngelson.
- First-author of the paper titled *Competitive Physics Informed Networks*, accepted for a poster presentation at the **I**nternational **C**onference on **L**earning **R**epresentations 2023.
- Oral presentation at 2022 Georgia Scientific Computing Symposium.
- Oral presentation at 16th Annual Spring Undergraduate Research Symposium at Georgia Tech.
- Poster presentation at the International Conference on Learning Representations 2022 workshop on Gamification and Multiagent Solution.

Work Experiences

Application Development Intern   May. 2022 - Aug. 2022
ADP, LLC.   Alpharetta, Georgia, U.S.
- Implemented a strategic decoupling of interdependent projects with a team of experienced backend developers. Optimized parts of the internal system architecture, leading to enhanced compilation speeds and improved stability for the development environment.
- Developed multiple Jersey REST APIs in Java and integrated the APIs seamlessly into the existing codebase, contributing to the enhancement of system functionality and interoperability.

Student Assistant   Oct. 2021 - May 2023
Georgia Institute of Technology   Atlanta, Georgia, U.S.
- Assisted several professors in the *Multivariable Calculus* (600+ students), *Second Course to Linear Algebra* (100+ students) and *Applied Combinatorics* (80+ students) classes.
- Held weekly office hours, evaluated students' performance and answered students' questions of the classes.

Projects and Other Experiences

Open Source Project Contribution: ERDDAP - NOAA   Jun. 2021 - Aug. 2021
Google and Integrated Ocean Observing System   Remote
- Worked with the Integrated Ocean Observing System under the U.S. **N**ational **O**ceanic and **A**tmospheric **A**dministration to develop a Java auto translation tool to translate ERDDAP (an opensource data server application used by oceanographic communities) upon new releases. Supported by Google Summer of Code Progam.
- Enhanced enhance data accessibility for oceanographic science communities.

Volunteer: Learning Assistant   Jan. 2020 - May 2020
University of Florida   Gainesville, Florida, U.S.
- Volunteered to assisted Dr. Stephen Adams in the Calculus I lecutres.
- Supervised and mentored students to improve their understanding on calculus concepts.

Publication

Zeng, Q., Kothari, Y., Bryngelson, S. H., & Schäfer, F. (2022). Competitive physics informed networks. 11th International Conference on Learning Representations.

Kothari, Y., **Zeng, Q.**, Schäfer, F., & Bryngelson, S. (2022). Competitive physics-informed networks for high-accuracy solutions to Navier-Stokes problems. Bulletin of the American Physical Society.

Awards & Honors

Outstanding Undergraduate Researcher Award   Spring 2023
College of Computing, Georgia Institute of Technology

Faculty Honors   Spring 2021, Spring 2022, Fall 2022, Spring 2023
Georgia Institute of Technology

Dean's List   Fall 2020, Fall 2021
Georgia Institute of Technology

President's Honor Roll   Fall 2019, Spring 2020
University of Florida

Skills

Technical Skills: Python, Java, SQL, C/C++, Tableau, PyTorch, Linux, Git, Bash, Machine Learning, Data Analysis

Languages Spoken: English (Fluent), Chinese (Native Speaker)