

Education

University of California, Berkeley	Current GPA: 3.7/4.0	<i>Fall 2019 - Now</i>
<ul style="list-style-type: none">Statistics, BA – <i>STAT 154</i>: Modern Statistical Prediction and Machine Learning; <i>STAT 159</i>: Reproducible and Collaborative Statistical Data Science; <i>STAT 151A</i>: Linear Modelling: Theory and Applications; etc.Computer Science, BA – <i>CS 186</i>: Introduction to Database Systems; <i>CS 61C</i>: Machine Structures (A+); <i>CS 61B</i>: Data Structures and Programming Methodology; <i>DATA 100</i>: Principles & Techniques of Data Science; etc.		
YKPao School, Shanghai, China	IB: 40/42	<i>Fall 2007 – Spring 2019</i>

Professional Experience

DataCVG Shanghai	ETL Engineer Intern	<i>May 2021 – Aug 2021</i>
<ul style="list-style-type: none">Performed extract-transform-load (ETL) using <i>Kettle</i> and <i>MySQL</i>. ► Combine outdated spreadsheets from two data sources (300+ spreadsheets) onto an updated data source.Constructed the architecture of destination spreadsheets by handpicking 3~5 primary keys along with necessary metadata columns. ► Reengineered incompatible columns through grouping rows, pivoting columns, and modifying column datatypes. ► Loaded the final results through merging transformed spreadsheets by matching primary keys. ► Debugged the final data through a series of rigorous diagnostics for any architectural failures.The ETL project had helped the client, Fosun Pharma, to upgrade onto the newest, higher performing database system.		

Research Experience

Project AEI, Koer A.I., Inc.	ML Research Team	<i>Jan 2022 – Now</i>
<ul style="list-style-type: none">Used artificial intelligence for automatic emotion recognition. ► Integrated the trained model into an emotion discernment and early warning system for police aggression.Built a <i>parallel CNN transformer</i> using <i>pytorch</i> to classify human voice signals as inputs into six universal emotion categories. ► The preprocessing of vocal signals included data augmentation, rescaling, and random noise augmentation. ► Transformed preprocessed signals into <i>Mel spectrograms</i> using <i>Python package librosa</i>. ► Also using <i>librosa</i>, extracted features <i>ZCR (zero crossing rate)</i> and <i>RMS (root-mean square energy)</i> from the vocal signal to boost performance of model.Uploaded data to <i>Microsoft Azure</i>. ► Trained model through <i>AzureML cloud computing</i> platform using <i>GPU compute clusters</i>. ► Used python package <i>azureml.core</i> for communication.		

Personal Experience

HOYO Lab	Project Leader	<i>March 2021 – Aug 2021</i>
<ul style="list-style-type: none">Self-initiated, interest-driven, data-centered project on the RPG game Genshin Impact.Predicted the game's underlying damage mechanism using <i>linear regression</i> with <i>stochastic regressors</i> and <i>feature mapping</i> (16 features). ► Collected data through 500+ in-game simulations, and initialized the model with naïve <i>feature map functions</i> and finalized the feature map function through <i>cross validation</i>. ► Achieved <i>prediction error</i> close to 0.Displayed the final model through web app using the <i>shinyapp</i> package in <i>R</i>, then utilized the model and published tutorial articles that received <i>400,000 views</i> and <i>50,000+ likes</i>. (https://zhihao617.shinyapps.io/genshin_basic_damage_calculator)		

Skills

High level programming language: Java (proficient), Python (proficient), R (proficient), C.

Query language: MySQL (proficient), SQL Server.

Front end development language: HTML, CSS, JavaScript.

Tools: AzureML, Git (proficient), Shell (proficient), Jupyter (proficient), Kettle, MS Office.

Language Proficiency: GRE: 334/340 (2022), TOEFL: 114/120 (2019).

Awards and Honors

Anna Sohmen Pao Award: Awarded for being the top 3 students in class of 2019 (high school)

Hobbies

Piano – Performed on high school graduation ceremony; **Choir** – Participated in ISCMS XII and ISCMS XIII (International Schools Choral Music Society); **Violin** – High school orchestra 2nd violinist; **Soccer** – high school varsity team left defensive midfielder.