# Zhenting (Jerry) Liu

zhentinl@andrew.cmu.edu

## Education

**La Salle High School, Pasadena** *Aug. 2018-May. 2022*
- *Weighted* GPA: 4.27
- *SAT Scores:* Math 790 | Reading & Writing 790

**Pasadena City College(High School Duo enrollment)** *Aug. 2020-May.2022*
- *Cumulative* GPA: 4.0/4.0

**Carnegie Mellon University** *Aug. 2023 - Present*
- BS in Electrical and Computer Engineering
- *Cumulative* GPA: 4.0/4.0

## Awards and Competitions

**TCS Touchstone Climbing Series 2022: Second place** *Oct. 1st 2022*
- Annual California bouldering competition with more than 600 participants from across the country, scored based on the difficulties of boulder problems sent. Scored second highest in Men's intermediate category.

**MelonJam Hackathon: Winner** *July 2021*
- Designed and created a 2D interactive maze game with self-designed algorithms for hardware efficiency using C++.

**Mathematical Contest in Modelling (undergraduate division)** *Feb. 2021*
- Developed a mathematical model that measures artists' musical influence based on the (the influence that musical artists have on each other) through time
- Participated individually, scored top 18% in 16059 teams.

**CommonLit Readability Prize-Kaggle: Silver Medal** *Aug. 2021*
- Identified and rated the appropriate reading level of text passages for grades 3-12 using machine learning methods.
- Reduced difference between realistic and predicted reading levels to 0.458 (Root Mean Square Error – RMSE)

**HuBMAP Medical Image Classification Competition: Bronze Medal** *May 2021*
- Build machine learning models using python that would identify glomeruli from human kidney tissue images (less than 9 hours CPU and GPU runtime, scoring and less than 28 entries. Achieved 94.5% accuracy based on Union metrics )

**Google Landmark Recognition 2020: Silver medal** *Sep. 2020*
- Constructed object-detection programs in python that identifies and labels landmarks in images with 0.5495 accuracy based on Intersection over Union (IoU) evaluation metrics over 53 image entries of different intersections.
- The contest is affiliated with the instance-Level Recognition Workshops in ECCV'20.

## Publications:

Fan, B., & **Liu, Z.** (2021, June). Learning to Learn Semantic Factors in Heterogeneous Image Classification. *Proceedings of the Second Workshop on Advances in Language and Vision Research*, 34–38. doi:10.18653/v1/2021.alvr-1.6

**Liu, Z.,** & Zhang, Y. (2020, September). Hypergraph based graph neural network for literature discovery - 6th International Workshop, GKR 2020, Virtual Event, Sep. 5th 2020.

## Research and Intern Experience

**Voice** **Pasadena California**
*President/Founder* *December 2021-Present*
- Voice is a student run non-profit organization dedicated to speaking out for the underprivileged population as well as voicing the urgency of the environmental crisis to raise public awareness.
- Collaborated with United Nations and other non-profit organizations across the globe and conducted interviews with underprivileged and "silent" populations in developing countries.
- Initiated clean energy projects in rural Cambodia and raised 500,000 dollars worth of project funding. We are also in contact with the Arcadia city council for a dedicated webpage to emphasize local homelessness and environmental pollution.
- Led over 30 members across the United States to conduct local interviews regarding the life conditions of minorities.

**Civikids** **Arcadia California**
*Content creator* *Dec.2020-Dec.2021*

- Wrote educational articles on energy waste, environmental pollution and the Government system. Prepared lessons for lecture uses

**University of Oxford**                                                                                                                 **Online**
*Research Intern (under the supervision of Professor Alex Rogers)*                                      *Dec.2020- Feb.2021*
- Build ML models to minimize household energy expenditure in the UK through proposing different usage strategies.
- Implemented algorithms for Joulo, a home energy advice system using a low-cost temperature sensor, on cloud.

**Matterverse**                                                                                                                               **Online**
*Frontend developer*                                                                                                             *Aug. 2021 – Oct. 2021*
- Collaborated with the development team and worked on the main web page development using HTML and Java Script.
- Produced technical designs and implemented new user-friendly graphic design features on user interfaces.

**Tesla**                                                                                                                                          **Online**
*Machine Learning Engineer Intern*                                                                                        *Aug.2020-Oct.2020*
- Conducted data classification and analyzed client reviews online with machine learning tools.
- Participated in the natural language processing team and worked on the client review analysis project.

**Airsave**                                                                                                                    **Arcadia California**
*Founder*                                                                                                                             *Jan 2022 - present*
- Developed and tested image recognition algorithms on drones used to detect people surrounded by trees, and other objects for rescue purposes

## Extracurricular

**International Students Club**                                                                       **La Salle High School, Pasadena**
*Club President*                                                                                                                *Feb.2020-May.2022*
- Collaborated with school administrations to ameliorate struggles that international students face.
- Designed targeted solutions for different students to adapt to online learning during COVID.

**Mu Alpha Theta Math Club**                                                                     **La Salle High School, Pasadena**
*Vice-president & Competition Manager*                                                                        *Sept.2021-May.2022*
- Tutored math and STEM-related course works for lower division students.
- Designed/Taught competition preparation materials & organized competitions.

## Skills

Python, Java, C, MySQL Workbench, Linux, OpenGL, Latex, Excel