**BOYUAN CHEN**

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**EDUCATION**

**Pomona College,** Claremont, CA Sep 2017 – May 2021

Double Major in Computer Science and Math; GPA: 3.80 / 4

**Relevant Courses:** Artificial Intelligence, Computer Graphics, Image Processing, Advanced Linear, Differential Geometry, Math of Big Data, Probability, Statisctical Inference, Discrete Differential Geometry, Algorithms

**RESEARCH EXPRIENCE**

**Meta-NeRF: Speed Up NeRF with Meta-Learning** June 2020 - Present

Lead researcher; Coworking with Alex Beatson, PhD student at Princeton

* Applied first-order meta-learning algorithms to reduce the required training steps of NeRF, the neural rendering model for view synthesis
* Proposed the research plan and implemented the code
* Designed and ran experiments on real-captured scenes and deep-voxel scenes
* In preliminary experiment, the meta-model reduced the training time for 10% on llff scene

**AR Spacial Language Learning In The Wild** Aug 2020 - Present

Lead researcher; Advised by prof. Misha Sra, UCSB

* Studying the effectiveness of AR annotation in outdoor settings on language learning
* Learned Android app development and web server connection from scratch; developed a recognition-based AR app on Android using Google Cloud Anchor
* Designed the experiment, quantitative tests, qualitative questions and test metric that measures physical weariness, productive recognition, recall and delayed recall
* Looking to conduct the user study in late January

**Facial Recognition with Shape as Prior** Sept 2019 - April 2020

Research Project Leader of a team of four students; advised by prof. Weiqing Gu

* Used Gaussian Mixture Model to cluster faces based on Hog face shape feature; then combined the shape info with CNN to form a posterior prediction
* Recruited team members, held group meetings and led research direction

**Eye Tracking on Pop Music Videos** Jan - June 2019

Research Assistant in a group of two students; advised by prof. Katherine Breeden

* Collected data of focal points on motion pictures with Gazepoint GP3 HD eye tracker
* Intensively built C++ code for caliberation tests and tracking trials on 10 music videos
* Statistically analyzed relationship between video editing and eye movement
* Conclusion: frequency of fast eye movement is minorly affected by the tempo of music, but mainly by the frequency of editing and the image structure

**CLASS PROJECTS**

**Survey on Rendering Functions for Neural Rendering** Sept 2020 - Present

Math Major Thesis Project; advised by prof. Ami Radunskaya

* Survey on rendering methods for scattering objects
* Learned Monte Carlo sampling and integration in compute graphics
* Looking for potential rendering functions for efficient neural rendering

**Computer Graphics Class Assignments**  Spring 2019

Instructed by prof. Waqar Saleem

* A plane view simulator with WebGL that flies over an infinite terrain
* Self-built ray-tracing engine with C++

**WORK EXPERIENCE**

**Teaching Assistant** Sep 2018 – Sep 2019

* Pomona College CS 062: Data Structure & Advanced Programming
* Claremont McKenna College Math 151: Probability

**ITS Front Desk Consultant** Sep – Dec 2019

* Helped students and professors with general technical questions

**Special Effects Internship at Beijing Television** June – July 2018

* Assisted with 3D projects’ modeling and refining in After Effects and Cinema 4D

**SKILLS**

* Programing skills: Python, C++, Java, JavaScript,Matlab
* Language: native Chinese; native-level English; intermediate French (Reading and Writing)
* Chess: master degree granted by Chess Association of China, equivalent to top level of amateur player
* Filmmaking: experienced filmmaker; made multiple award-winning independent works, intermediate Cinema 4D and Blender