**BOYUAN CHEN**

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**EDUCATION**

**Pomona College,** Claremont, CA Sept. 2017 - May 2021

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

**Relevant Courses:** Artificial Intelligence, Computer Graphics, Image Processing, Advanced Linear Algebra, 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 – Dec 2020

*Lead Researcher; Coworking with Alex Beatson, PhD student at Princeton Univerisity*

* Applied first-order meta-learning algorithms to reduce the required training steps of NeRF, the neural rendering model for view synthesis; utilized meta-learning models such as MAML and Reptile
* Designed and conducted experiments on real-captured scenes and deep-voxel scenes
* Collecting more scene data to achieve better performance

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

*Lead Researcher; Advised by Prof. Misha Sra, UCSB*

* Studied the effectiveness of in-situ AR annotation for outdoor objects on language learning
* Developed an AR annotation app on Android using Google Cloud Anchor with web server synchronization
* Designed the experiment, quantitative tests, qualitative questions and test metrics that measure physical weariness, productive recognition, recall and delayed recall
* Planning to conduct the user study in spring semester

**Facial Recognition with Shape as Prior** Sept. 2019 - Apr. 2020

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

* Combined the shape prediction with CNN to form a posterior prediction which took a shorter training time
* Used Gaussian Mixture Model to cluster faces based on Hog face shape feature
* 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 and analyzed data of focal points on motion pictures with Gazepoint GP3 HD eye tracker
* Intensively built C++ code for caliberation tests and tracked trials on 10 music videos
* Statistically analyzed the relationship between video editing and eye movement
* Identified that the 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

* Conducted a survey on rendering methods for scattering objects; learned Monte Carlo sampling and integration methods
* Looked for potential rendering functions for efficient neural rendering

**Computer Graphics Class Assignments**  Spring 2019

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

**WORK EXPERIENCE**

**Teaching Assistant** Sept. 2018 - Sept. 2019

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

**ITS Front Desk Consultant** Sept. - Dec. 2019

* Helped students and professors with general technical questions

**SKILLS**

* Programing skills: Python, C++, Java, JavaScript, Matlab, C#
* 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