

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, Statistical Inference, Discrete Differential Geometry, Algorithms

Other Courses: Stanford CS231N Convolutional Neural Network, Stanford CS330 Deep Multi-Task and Meta Learning, GAMES201 高级物理引擎实战指南 2020

RESEARCH EXPERIENCE

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 at UCSB campus

Meta-NeRF: Speed Up NeRF with Meta-Learning

June 2020 – Dec 2020

Lead Researcher; Coworked with Alex Beatson, PhD student at Princeton University

- 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
- Learned and refined academic writing

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 calibration 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 all kinds of 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 Unity and Blender
- See four of my video works on my LinkedIn profile: <https://www.linkedin.com/in/boyuan-jack-chen-6466b2142/>