**BOYUAN CHEN**

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**EDUCATION**

**Pomona College,** Claremont, CA Current Junior, 2017 – 2021

Double Major in Computer Science and Math; GPA: 3.81 / 4

**RESEARCH EXPRIENCE**

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

Coworking with [Alex Beatson](https://www.cs.princeton.edu/~abeatson/), PhD at Princeton

* An ongoing project that uses MAML, a meta-learning model published in 2017, to reduce the required training steps of NeRF, the neural rendering model for view synthesis published in March 2020
* Proposed the research plan and implemented the code
* Designed and ran experiments on real-captured scenes and deep-voxel scenes
* In vanilla experiment, the meta-model took 4-5 times fewer iterations

**WhatsThat: Real-World Language Learning Experience with AR** Aug 2020 – Present

A project with [Prof. Misha Sra, UCSB](http://alumni.media.mit.edu/~sra/)

* Studying the effectiveness of AR-aided language learning that shows the name of each object through live camera
* Developing a recognition-based AR app on Android using tensorflow and Depth API

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

Research Project Leader of a team of four students; advisor: [Prof. Weiqing Gu](https://math.hmc.edu/gu/)

* Used Gaussian Expectation Maximization and 3D facial shape generation to classify face shapes; then combine the shape info with CNN to form a posterior prediction

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

Research Assistant in a group of two students; advisor: [Prof. Katherine Breeden](https://graphics.stanford.edu/~kbreeden/)

* Analyzed relationship between video editing and eye movement
* 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 the frequency of each kind of eye movements with respect to editing speed

**PROJECTS**

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

Math Major Thesis Project; advisor: [Prof. Ami Radunskaya](https://www.pomona.edu/directory/people/ami-e-radunskaya)

* Survery on methods for neural rendering low-albedo and high-albedo objects

**Computer Graphics Class Assignments**  Spring 2019

Instructor: 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**

* 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

**PROGRAMMING LANGUAGES & Software**

* Proficient Python, C++, Java, JavaScript; Intermediate Matlab
* Intermediate Cinema 4D and Blender

**RELEVANT COURSES**

* Artificial Intelligence, Methods of Applied Math, Computer Graphics(A+), Image Processing, Advanced Linear Algebra, Differential Geometry(A), Math of Big Data(A), Probability(A), Statisctical Inference, Discrete Differential Geometry, Algorithms

**OTHER SKILLS**

* Language: native Chinese; fluent English; intermediate French
* 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

See <https://www.linkedin.com/in/boyuan-jack-chen-6466b2142/> for my video works