Hayun Chong

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EDUCATION

Columbia University, *The Fu Foundation School of Engineering and Applied Science* New York, NY

- Bachelor of Science in **Computer Science (Vision and Graphics Track)** *Expected May 2021*
- **CP Davis Scholar** – Top 10% of incoming class in 2017, Dean's List, **GPA: 3.915**
- **Tau Beta Pi** – NYA chapter (Inducted Fall 2019)
- *Completed Relevant Coursework***:** Computer Graphics, Computer Vision, Artificial Intelligence, Computer Science Theory, Fundamentals of Computer Systems, Discrete Mathematics, Multivariable Calculus, Linear Algebra
- *Current Relevant Coursework:* Machine Learning, User Interface Design

EXPERIENCE

Creative Machines Lab, Columbia University New York, New York
Research Assistant *January 2020 – Present*

- Research assistant under the supervision of Professor Hod Lipson
- Creating 3D simulations of data collected from the first-ever ultrasound system under $300 USD in materials cost using OpenGL and C++
- Investigating multi-threading methods to separate GUI from data processing and OpenGL rendering
- Implementing a GUI for manipulation and viewing statistics for the visualized 3D image
- Visualization of the probe through reading of quaternion to Euler angles

Columbia University New York, New York
Teaching Assistant *September 2019 – Present*

- Spring 2020: COMS 4160 (Computer Graphics), Fall 2019: CSEE 3827 (Fundamentals of Computer Systems)
- Grade tests, hold office hours, answer questions on Piazza

LivePitch New York, New York
Software Development Engineer *October 2019 – February 2020*

- SDE for a startup to create a mobile, video-based marketplace platform in react native
- Implemented UI features for the shopping cart and worked through logic for checkout

Amazon.com Seattle, Washington
Software Development Engineer Intern *May – August, 2019*

- Intern in Supply Chain Optimization Technologies (SCOT) team
- Created several functionalities using Java to an internal tool used by engineers to take a computed plan for inventory orders and easily debug through it
- Solved the problem of working locally and making requests to a live service through a web server
- Decreased data storage on AWS for a specific object by over 30%
- Implemented interactive options in the tool and constructed user instructions

SIDE PROJECTS

Underwater Multiplayer Unity Game *Spring 2020*

- Working with a team of 8 students to create a multiplayer 3D game that requires teamwork from the two players to solve various puzzles underwater
- In charge of creating 3D models of characters and scenes using Blender and Unity

Monte Carlo Ray Tracer *Spring 2019*

- Created a ray tracer using the Monte Carlo rendering algorithm in Java to render 3D images using direct and global illumination

Shader Implementations *Spring 2019*

- Created various shaders to use on OpenGL including Gourand, texture-modulated smoothing, wireframe, CEL, and Gooch shaders

SKILLS

Proficient: C++, Python, Java, Git, HTML, CSS, Javascript
Familiar: Unity, C#, OpenGL, GLSL, C, PyTorch, Flask, React Native