Cheryl Lao

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EXPERIENCE

Research Intern (MAY 2021 – AUGUST 2021)
Adobe Inc.
- Conducted HCI research on typographical layouts with the Graphics Intelligence & Learning Lab

Research Assistant (JULY 2020 – SEPTEMBER 2020)
Dynamic Graphics Project, University of Toronto
- Supervisors: *Prof. Daniel Wigdor, Prof. Fanny Chevalier & Prof Haijun Xia*
- Reviewed existing research on virtual reality (VR) authoring tools
- Designed a novel interaction technique for visualizing for VR design space exploration
- Developed the VR prototype in **Unity 3D (C#)** for **Oculus Rift**
- Devised and conducted user studies to evaluate the prototype

Software Developer Intern (MAY 2019 – AUGUST 2019)
Autodesk Inc.
- Developed features for Autodesk Maya's Render Setup using **PyMEL**, **Python** and **Qt**
- Collaborated with designers to design and implement a grouping feature that allows users to organize and manipulate object overrides simultaneously
- Created a feature that summarizes information from the Maya node dependency graph

Software Developer PEY Intern (MAY 2018 - MAY 2019)
Intel Corp.
- Architected and implemented an infrastructure in **Python** and **PostgreSQL** for organizing product attributes
- Maintained and extended a set of automated dashboards that displayed completion statistics for project management
- Coordinated project development with international teams
- Used mathematical models to predict FPGA static power consumption and wrote supporting software in **C++** and **Python**

PROJECTS

Raytracer
Computer Graphics Project
- A raytracer written with the **C++ Eigen library** that rendered 3D scenes built with .stl objects as images with lighting, reflections, and shadows
- Extended the project to make an animated scene with depth of field blurring

Image Denoiser
Computer Vision / Machine Learning Project
- Implemented, trained, and tested a **PyTorch** image noise remover based on the DnCNN architecture by Zhang et al.
- Augmented image data using **OpenCV** with a variety of image processing techniques to increase generalizability of the model
- Evaluated the effectiveness of the model on several image noise types

EDUCATION

Master of Mathematics: Computer Science (2020-Present)
University of Waterloo
- **Human-Computer Interaction** and **Computer Graphics**
- Supervisors: *Prof. Daniel Vogel & Prof. Craig Kaplan*

Honours Bachelor of Science: Computer Science (2015-2020)
University of Toronto, Victoria College
- Specialist focus in **Computer Vision**
- Graduated with **High Distinction**

TECHNICAL SKILLS

- Python
- C#, C++, C
- Java
- JavaScript
- HTML
- CSS
- SQL
- Git & Perforce
- Unity
- OpenCV
- PyTorch
- Processing.js
- Docker
- Qt
- Photoshop
- Maya

EXTRACURRICULARS

- **President** and **Founder**, The University of Toronto Computer Graphics Club (2016-2020)
- **Executive Member**, Toronto ACM SIGGRAPH Chapter (2018-present)
- **Team Leader**, SIGGRAPH 2019 & 2020 conferences
- **Student Volunteer**, UIST 2020 conference
- **Microsoft Student Partner**, Microsoft (2017-2020)
- **Vice President** of the University of Toronto Computer Science Student Union (2017-2018)