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Education

Vanderbilt University **Graduation:** Dec. 2020

B.S. Computer Science, Mathematics, Minor in Scientific Computing **GPA:** 3.748 / 4.000

Relevant Coursework: Data Structures, Computer Graphics, Discrete Structures, Web Development, Operating Systems, Nonlinear Optimization, Mathematical Data Science, Cloud Computing

Technical Skills: C, C++, Python, PyTorch, Detectron2, C#, Unity, Linux, AWS, JavaScript, HTML & CSS, React

Experience

Teaching Assistant / Vanderbilt University School of Engineering **Jan. 2019 – Dec. 2020**

- Worked as TA for Discrete Structures, Operating Systems and VR for Interdisciplinary Applications.
- Partnered with students on individual and small group basis to help with learning & assignment questions.

Fellow / Vanderbilt University School of Engineering & Wond'ry Innovation Center **Jun. 2019 – Present**

- Researched for Vanderbilt LiVE Lab, School of Engineering & History Department and currently at the Wond'ry Innovation Center on AR & VR studies.
- Developed Unity applications to assess human perception in AR through Microsoft HoloLens.
- Created a VR solution to process and display stereoscopic images for public use and research purposes.
- Working on an AR platform that brings recorded or live VR experiences to mobile devices.

Software Engineer / Eddify Co. **Jul. – Aug. 2020**

- Worked as fulltime SWE at Eddify Co., a young startup, on its mobile application named Airsip.
- Focused on user-side input validation, UI adjustments and code refactoring with better libraries.
- Pushed the app to its MVP release with the technical team.

Projects

CLI for Image Processing / C and C++ based command line interface **Jan. – May. 2019**

- Personal project. An OpenGL based image processing CLI built from scratch. Its functionalities include:
  - Reading, parsing and displaying TIFF binary files.
  - Manipulating images through discrete convolution filters.
  - Drawing geometric shapes on black canvas and changing their 3D transformations.
  - Rendering ray-traced images of 3D geometric shapes with different color & texture properties.
- GitHub repository made private due to Vanderbilt Honor Code Policy.

NaturalScene & NarrowingWalls / Unity C# projects for Microsoft HoloLens **Jun. – Nov. 2019**

- Two separate personal projects for assessing human perception abilities in AR.
- Both projects implement a full set of experimental protocol, consist of virtual objects that change behavior on voice commands, interactive buttons and floating text UI to indicate data or status.
- Both projects were supplied to the University of Utah Department of Psychology for testing and are available on GitHub at github.com/VanderbiltLIVELab.
- Paper was submitted and published as IEEE VR 2020 and ISMAR 2021 Journal/Conference Papers.

Digital Cultural Heritage / Python & Unity project for Oculus VR **Jan. 2020 – Present**

- Personal research project aimed to raise public awareness and aid research on historic stereoscopic images primarily made in mid-19th and 20th centuries.
- Convert stereoscopic images to VR-compatible Unity scenes with trained faster R-CNN model, and set up AWS servers for hosting image assets.

HoloScene / Cross-platform VR/AR solution **Aug. 2020 – Present**

- Ongoing Unity project to record interactive multimedia sessions or livestream events in VR and make the recordings / stream viewable and interactable on any mobile device as animated 3D objects.
- Build/maintain the mobile client application and set up AWS servers for hosting VR session recordings.