Hanyuan Xiao

https://www.linkedin.com/in/hanyuanxiao/

Email : xiaoh2@rpi.edu
Mobile : (518)407-9398

Objective

To obtain internship in computer hardware and software fields of Electrical Engineering and Computer Science.

Education

- **Rensselaer Polytechnic Institute (RPI)** — Troy, NY
  Bachelor of Science (B.S.) in Computer Science and Electrical Engineering (dual major); GPA: 3.96 — *May 2019*
  - **Honor**: Dean's Honor List (2015-2018)

Related Research & Projects

- **VR Acquisition & Application Development for School of Engineering Research** — RPI Troy, NY
  Software Engineer, Undergraduate Researcher — *January 2018 - Present*
  - **Photogrammetry**: Study and implement different 3D reconstruction pipelines such as PMVS and COLMAP to generate and merge diverse models of School of Engineering of RPI, which are published to SteamVR Workshop.
  - **3D Reconstruction Optimization**: Develop and exploit functions in area of computer vision to further optimize models and merge into large-scale 3D environment to recover indoor and outdoor scenes in virtual reality.
- **Google Cardboard AR/VR Research** — RPI Troy, NY
  Software Engineer, Undergraduate Researcher — *September 2017 - Present*
  - **RPI 360 Tour (VR)**: Developed a VR platform implementing *Google Maps* API, *Google Street View* and a database using AWS to allow users to visit RPI Troy campus online with any VR headset wireless.
  - **A-Frame Virtual Reality Framework**: Solved issues in open-source project aframe.io, such as consistency and compatibility test on different hardware platforms and documentation.
- **Emergency Detection System** — RPI Troy, NY
  Team SmartRPI, Team Leader — *May 2017 - June 2017*
  - **Leadership, LESA**: Led team to study and collaborate with Professor Kenneth A. Connor and Professor Richard Radke from research center LESA (Lighting Enabled Systems and Applications).
  - **Multitasking**: Multitasking in development and debug through hardware to software in whole project.
  - **iPhone Application & Hardware System**: Implemented Swift programming language on iOS platform and C programming language on Arduino to allow communication between iPhone and Arduino UNO via Bluetooth (BLE).
- **Computer Graphics** — RPI Troy, NY
  Course, Project — *Fall 2017*
  - **Audio Mapped Sphere Project**: Developed a sphere which maps tones of audio file onto surface of 3D Sphere model in different RGBαs using *Fibonacci Sphere Algorithm* and *Three.js* OpenGL library to show response from frequency topology.

Related Courses

- **Signals and Systems** — 2018 Spring
  - **Signal Processing & Application**: Practiced diverse continuous and discrete time signal processing methods (such as convolution, Laplace Transform) to apply to system communication, feedback control and filtering.
- **Introduction to Algorithms** — 2018 Spring
- **Computer Architecture, Networks and Operating System (CANOS)** — 2017 Spring
  - **Kernel Computer Architecture**: Analyzed principles and design of CPUs and memory architecture to deepen understanding of data structures and to assist understanding of optimization of program to specific CPU design.
  - **Operating System**: Explored physical layers of operating system and I/O system to support multithread programming.
- **Data Structures** — 2017 Spring
  - **Data Structures & Algorithms**: Utilized data structures including using, constructing and modifying Tree, Map, Hash Table, Priority Queue, etc. and algorithms to optimize and fulfill classical algorithms in computer science.

Skills

Python C++ C HTML JavaScript Bilingual OpenGL & WebGL MS Office LaTeX Data Structures Arduino Embedded System AutoCAD AWS Structure from Motion (SfM) Multi-view Stereo (MVS) Windows Linux Linear Algebra Microelectronics (Semiconductor) Troubleshooting Visual Studio (VS) GitHub

Work Experience

- **Teaching Assistant (TA)** — RPI Troy, NY
  Laboratory Introduction to Embedded Control — *September 2016 - Present*
- **Electric Energy System Designer** — Nanjing, China
  Jiangsu Longtu Zhaorun Engineering Design Co. Ltd — *July 2017 - August 2017*