Haard Panchal

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Website: *h44rd.github.io* Github : *h44rd*

Education

- **Texas A&M University** College Station, Texas
  Master of Science in Visualization (Computer Graphics) *Aug. 2019 – Dec. 2021*
- **International Institute of Information Technology, Hyderabad** Hyderabad, India
  Bachelor of Technology in Computer Science and Engineering (Honors) *Aug. 2015 – May 2019*

Experience

- **Graphics Software Engineer** Intel, Folsom, CA
  GPU Drivers *January 2022 - Present*
  - Analysed Workstation and Creator workloads to implemented GPU and CPU based optmizations that resulted in about 40% improvement on industry recognized benchmark categories.
  - Enabled creator/workstation application functionally, including fixing render artifacts and page faults.
  - Collaborated with external ISVs to develop compatible and performant 3D software.
  - Worked with HLSL DXIL IR pixel shaders, compute shaders and explored DirectX Ray Tracing via Graphics debug tools (Intel GPA, MS PIX).
- **Graphics Software Developer Intern** Intel, Remote
  Intel Architecture Graphics and Software *May 2021 - August 2021*
  - Implemented specific capture tools for graphics and gaming workloads by utilizing existing tools (Intel GPA) and writing extensions to them.
  - Implemented workloads to perform micro-benchmarks on pre-release DirectX 12 Ultimate graphics features.
- **VR Software Developer Intern** Amerra, Inc.
  Virtual Reality Team *June 2020 - August 2020*
  - Independently built an Educational VR Application for Medical professionals from scratch using Unity, C# and Oculus Quest.
  - Worked in a multi-disciplinary team of clients, modelers and animators.
  - Designed a Software Template that facilitates customization, expandability and cross-platform use
- **Software Research and Development Intern** KLA Software India Private Limited
  E-Beam Algorithms Team *May 2018 - July 2018*
  - Developed a robust Deep Learning solution to curtail human supervision for Image Processing task in the pipeline.
  - Surveyed academic literature and existing methods to formulate solution.

Projects

- **GPU Accelerated Ray Tracer Engine in CUDA C++*(Link)***: A scalable Ray Tracer Rendering Engine for Implicit Shapes and Meshes
  - Implements multiple types of lights and BRDF models
  - Robust code design facilitates additional materials, geometries and textures
- **Fast Voronoi from Arbitrary number of Seeds *(Link)***: Webapp developed to produce Voronoi diagram of an arbitrary number of seeds using **WebGL**.
  - Follows Object Oriented Paradigm to build a malleable and real-time system.
  - Application created to generate results for on-going research.

Programming Skills

- **Languages**: : C++, C, Python, JavaScript, C#, SQL, Java, Bash, HTML/CSS
- **Libraries and Frameworks**: : DirectX12, CUDA, OpenGL, WebGL, Numpy, Truffle, Web2py, Unity
- **Tools**: : Linux, Windows, Matlab Toolkit, DrRacket, Android Studio, Git

Other Relevant Experience

Teaching Assistant-ship: Computer Programming, Computer Graphics, Computer Vision and Computing in Visualization II

- Organized and conducted OpenGL tutorials and labs.

Opensource: Code contributions : Appleseed (C++ CPU Based Ray Tracing), Eschersketch (WebGL).

Eligible to work in the United States with H1B