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, Current GPA: 3.85 *Aug. 2019 – Present*
- **International Institute of Information Technology, Hyderabad** Hyderabad, India
  Bachelor of Technology in Computer Science and Engineering (Honors), CGPA 7.62/10 *Aug. 2015 – May 2019*

Experience

- **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.
  - Prototyped model in Caffe and ported to Tensorflow platform for industrial use. Knowledge of C++ and Python played crucial role.
  - Weekly reviews and presentations to the global team.

Projects

- **GPU Accelerated Ray Tracer Engine from scratch in CUDA C++**: 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 and code style.
  - Application created to generate results for on-going research.
- **Diffuse, Specular, Reflective and Refractive Shading using GLSL *(Link)***: Developed WebGL application that performs shading using normal maps.
  - Combines Normal maps with RGB image to create the effects
  - Real time Interactive application
- **Effect of Fantasy elements in a Virtual Reality Game**: Developed a VR Table Tennis game in a team to collect and analyse user survey data using *Unity 3D*.
  - Conducted Usability tests and developed iteratively
  - Role: Physics and AI Bot Programmer, Coordinator
- **3D OpenGL Game**: Designed and Developed a 3D Interactive game using OpenGL in C++, featuring various moves, camera controls, projections.
  - GLSL shaders implemented to include basic lighting.

Programming Skills

- **Languages**: : Python, Matlab, Solidity, Racket, JavaScript, C/C++, SQL, Java, Bash, HTML/CSS
- **Libraries and Frameworks**: : Tensor-flow, PyTorch, Caffe, Keras, scikit-learn, OpenCV, OpenGL, WebGL, Numpy, Truffle, Web2py, Unity
- **Tools**: : Linux, Matlab Toolkit, DrRacket, Android Studio, Git

Other Work Experience

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

- Mentored 7 teams (21 students) for their projects as Computer Vision TA.
- Organized and conducted OpenGL tutorials and labs.

Eligible to work in the United States with CPT