

# Haard Panchal

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## EDUCATION

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- Texas A&M University** College Station, Texas  
*Master of Science in Visualization (Computer Graphics), First Semester Student* 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

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- 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. Strong fundamentals in Algorithms facilitated study.
  - Collaborated with the team to assemble Dataset with over 100 images to train the solution model. Developed Matlab software to annotate the dataset in semi-supervised manner.
  - 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.

## CURRENT PROJECTS

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- Effect of Fantasy elements in a Virtual Reality Game:** Currently developing a VR Table Tennis game in a team to collect and analyse user survey data using *Unity 3D*.
  - Multiple Game modes with varying amount of fantasy effects.
  - Course: Virtual Reality
  - Role: Physics and AI Programmer, Coordinator
- Direct Transfer of Pose from Natural Videos Maya Plugin:** Personal project which uses Deep Learning and AI methods to streamline the process for Animators.
  - Estimates pose of humans in natural videos, without requiring specialized Motion Capture tools.
  - Transfers the movement and pose to a user defined Maya Rig.
  - Automatically creates animation to match the movement of the subject in the video.
- 3D Animation Short:** Creating a 30 second short animated film in a team.
  - Software tool: Maya
  - Course: 3D Modelling and Animation
  - Role: Animator, Modelling, FX

## RELEVANT PROJECTS

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- Eye Gaze Detection using Attention Modelling:** Built an application that tracks gaze of individuals in images. Implemented and reproduced the results from the Gaze Follow *paper* using the PyTorch framework.
- 3D Bloxorz Game:** Designed and Developed a 3D Interactive game using OpenGL in C++, featuring various moves, camera controls, projections. Shaders implemented to include basic lighting.
- Identification and Tracking in Crowds:** Used extracted representations and face recognition to identify individuals in crowds and track them in crowded scenes.

## PROGRAMMING SKILLS

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- 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

## ACTIVITIES

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

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

**Sports:** Attacking winger in undergraduate college Soccer team. Won the Interhouse Tournament thrice in a row. Eligible to work in the United States with CPT