Haard Panchal

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Github : *h44rd*

Education

- **Texas A&M University** — College Station, Texas
  Master of Science in Visualization, 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

- **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

- **3D Animation Short**: Creating a 30 second short film in a team using Maya. Team Role: Animator, Modeller, FX.
- **Effect of Fantasy elements in a Virtual Reality Game**: Currently developing a Table Tennis game in a team. Involves multiple modes to be used in research survey. Serving as the programmer, modeller, stylist and the coordinator.

Relevant Projects

- **3D Bloxorz Game**: Designed and Developed a 3D game from scratch using OpenGL in C++, featuring various moves, camera controls, projections. Shaders implemented to include basic lighting.
- **2D Cannon Shooter game**: A 2D Shooter game with zoom and panning. Developed in OpenGL and C++.
- **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.
- **Identification and Tracking in Crowds**: Python implementation that Utilizes compact feature representations for fast identification of individuals and tracking in crowded scenes.
- **Ultimate Tic-Tac-Toe AI Bot**: Programmed a bot that can play the game using Min-Max trees to calculate the moves. Reached semi-finals of the tournament.
- **SQL Engine**: Implemented command line based mini-SQL Database engine in Python using Pandas and parsing libraries. Follows the Object Oriented paradigm.

Additional Experience

- **Honors Research Student** — Center for Visual Information Technology
  Under Dr. Anoop Namboodiri — *May 2017 - May 2019*
  - **Biometric Image Quality Metric**: Devised a mathematical formulation which determined the performance of existing Biometric image quality metrics through the application of Data Analytics. Facilitates Model training.
  - **Face Recognition Dataset for Indian Government Officials**: Dispatched Android application to build an Annotated and Crowd-sourced Dataset of 200,000+ Face images and videos. Delivered to client successfully.

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
- **Tools**: : Linux, Matlab Toolkit, DrRacket, Android Studio, Git

Activities

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