

AMAN SACHAN

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EDUCATION

UNIVERSITY OF PENNSYLVANIA

M.S.E. Computer Graphics and Game Technology

Related subjects: *Advanced Computer Graphics, Advanced Topics in Computer Graphics and Animation, Computer Animation, Computer Graphics, Data Structures and Algorithms*

August, 2016 -
May, 2018

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

B.E. Electrical and Electronics Engineering

August, 2012 -
July, 2016

PROJECTS

MAYA L-SYSTEM PLUGIN ◊ C++, MEL, Maya API

- **gui and maya menu item** implemented with a **MEL** script
- **Attribute editor** implemented with **C++** ◦ **write or upload** files for **grammar**

24th - 31st Jan,
2017

PROCEDURAL BIRD WING ◊ Javascript, WebGL, GLSL, nodejs, Threejs

- Procedurally Modelled and animated a bird wing
- GUI controls dynamically control various characteristics of the wing

25th - 31st Jan,
2017

PROCEDURAL NOISE CLOUD ◊ Javascript, WebGL, GLSL, nodejs, Threejs

- applied a pseudo-4D noise to deform a sphere in interesting ways
- GUI controls change various things including the noise with octaves, persistence, and textures

18th - 25th Jan,
2017

RAY TRACER ◊ C++, OpenGL, Qt

- The ray tracer took modelled specular reflectance, transmission, lambertian and phong lighting models, and shadow feeler rays.

18th - 31st Jan,
2017

MINI-MINECRAFT ◊ Group Project ◊ C++, OpenGL, GLSL, Qt

Created a game implementing some of the features of minecraft

- **Efficient Terrain Rendering** with interleaved VBO's
- **Weather** and **Clouds** ◦ **Day and Night Cycle** ◦ **animated water and lava**
- **A general scheme** to **texture map** and **normal map** ◦ **specularity**

Mid November -
Mid December,
2016

HALF-EDGE MESH, CATMULL CLARK, SKELETONS, and SKINNING ◊ C++, OpenGL, Qt

- A **HalfEdge** Mesh data structure, the accompanying **GUI** and a **visualisation scheming** for the Half Edge data structure components.
- **Catmull-Clark subdivision** and **Mesh Manipulation operations** like extrusion.
- **Interactive Skeleton** Structure, **Skimming**, and Shader Based **Skin Deformation**.

November,
2016

ANIMATION ◊ C++, Visual Studios

- A variety of **splines** ◦ **Forward and Inverse Kinematics**
- Individual and Group **Behaviours** for agents and agent controllers
- **Particle and Fireworks systems** that can be influenced by external forces

August -
December,
2016

LEADERSHIP and AWARDS

PROJECT S ◊ Project Head

- **Created** a 250W **solar system** in the BMSIT&M Campus that included the creation of a custom single axis tracked auxiliary reflector system to **significantly improve** the **efficiency** of the deployed solar PV system at lower than market cost.

- Received **Rs. 1,00,000/- in funding from BMSIT&M (only student project to receive funding from the college)**.

- Received a **grant of Rs. 14,000/- from IEEMA**, along with a travel allowance.

- **Finalist of** national competitions **KPIT Sparkle 2016** and **Engineer Infinite 2016**.

March, 2015 -
June, 2016

EARTHIAN 2014 ◊ Team Lead of Winning Team

- **Wipro's** annual international sustainability program and competition.
- Awarded **Rs. 1,50,000/-**

October -
November,
2014

VIDYUT 2k14 ◊ Prime Coordinator

- One of the **prime coordinators** of the fest; **Head of the sponsorship committee; M.C.** for the event 'Minute to Win It'; **Key speaker** in the valedictory address.

September,
2014

SKILLS

PROFICIENT: OpenGL, C++, Maya, Qt, MEL, Visual Studio,

FAMILIAR: C, JAVA, nodejs, javascript, Maya API, git, python, Houdini, MotionBuilder, AutoCAD