

## AAKAR DESAI

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### EDUCATION

**University of Southern California**, Los Angeles, California [January 2010 – Present]

- Master's in Computer Science
- Specialization: Multimedia and Creative Technologies [GPA: 3.50]

**Sardar Patel University**, Gujarat, India [December 2008]

- Bachelor of Engineering, Information Technology [GPA: 3.68]

### TECHNICAL SKILLS

- Operating Systems: Windows, Linux, Mac OS, Windows CE
- Development Tools: C, C++, C#, Java, VC++, PHP, ASP, ASP.Net, JSP, VB.Net, HTML, DHTML, JSON, XML, XSLT, AJAX, Javascript, Flash Action Scripting, MEL Scripting, Pascal, OpenCV, OpenGL
- DBMS: MS SQL, MS Access, MySQL
- Application Packages: Microsoft Visual Studio, Xcode, Adobe Photoshop, Corel Draw, Page Maker, Adobe Flash, Dreamweaver, Unity3D, Autodesk Maya, Blender, MS Office, Processing, GIMP

### WORK EXPERIENCE

**Web Applications Developer** [March 2011 – Present]

**Information Technology Services, USC, LA**

- Developing modules for *eWork*, which is an online portal where all the daily transactions of Employees and Students of the University of Southern California are managed.
- Designing the new User Interface for *eWork* at USC.  
(*Adobe Dreamweaver, PHP, HTML, CSS, Javascript, XAMP, MySQL, GIMP*)

**Assistant in Research** [February – August 2010]

**Integrated Media Systems Center, USC, LA**

- Assisted Prof. Ulrich Neumann and his team in their project which dealt with generating 3D Structures from the given 2D Images.  
(*Autodesk Maya, Blender, GIMP, Photoshop, Google SketchUp; Python, MEL Scripting*)

**Founder Member, Website Developer and Content Manager** [January 2004 – December 2009]

**Adezines, India**

- Managed the data, content and Search Engine Optimization for Adezines.com – A translation company which deals in linguistic validation of medical questionnaires and has tie-ups with Pharmaceutical Research Companies around the world.  
(*Asp.Net, HTML, CSS, Javascript, Google Analytics*)

**Website Developer and Business Development Manager** [September - December 2008]

**Quetzal Online Pvt. Limited, India**

- Managed, modified and worked on the UI Design and back-end of **TenADay.in** – one of India's largest MBA Entrance Exam training portals.  
(*ASP, ASP.net, SQL, HTML, CSS, Javascript, Google Analytics*)

### PROJECT WORK

**Interactive Gaming and UI Design for Mobile Devices** [November 2010 – Present]

- Developed an interactive game, "Rock,Papers,Scissors" for the iPhone, iOS.
- Currently working on an *Augmented Reality* game to better the mobile-human interaction by making 3D Animated Characters interact with the real-world environment, under the guidance of Prof. Scott Easley at the USC GamePipe Laboratory.  
(*Autodesk Maya, Xcode, Unity3D, Javascript*)

**Implementation of a Lossy Image Compression Technique** [February 2011]

- Implemented compression algorithms on images using uniform and non-uniform quantization techniques under the guidance of Dr. Parag Havaldar.  
(*Eclipse, Java*)

### **Multimedia: Authoring and Playback**

[April 2011]

- Designed and developed an Authoring Tool used to assemble different kinds of media, setup their interactivity and publish content of different forms on one common platform.
- Designed a player to “play” the aforementioned assembled media in real time using synchronization techniques for interactive media playback under the guidance of Dr. Parag Havaldar.  
(*NetBeans, Java*)

### **An Interactive Particle System**

[April 2011]

- Developed an interactive Particle System, “Butterfly Meadow”, where a collection of particles obeyed the classic rules of lifespan, gravity, wind, and other forces found in nature, under the guidance of Dr. Sathyanaraya Raghavachary.  
(*Processing, OpenGL, Java*)

### **Noise-based Ocean Surface Simulation**

[April 2011]

- Simulated a 3D Ocean Surface using Perlin Noise Functions with additional featured like user-defined frequencies, real-time turbulence and frequency alterations as found in Oceans and other Water Bodies, under the guidance of Dr. Sathyanaraya Raghavachary.  
(*Processing, OpenGL, Java*)

### **Generating Flora using L-Systems**

[March 2011]

- Generated 2D Flora using the principles of L-Systems where recursive techniques are used to model the repetitive patterns found in real-life Flora, under the guidance of Dr. Sathyanaraya Raghavachary.  
(*Processing, OpenGL, Java*)

### **Implementation of a Lossy Image Compression Technique**

[January - February 2011]

- Implemented compression algorithms on images using uniform and non-uniform quantization techniques under the guidance of Dr. Parag Havaldar.  
(*Eclipse, Java*)

### **Object Recognition using Computer Vision Principles**

[November 2010]

- Implemented the method described in a paper by Willamowsky *et al* for recognizing objects in a set of images under the guidance of Dr. Ram Nevatia.  
(*VC++, OpenCV*)

### **Tombari et al. Correspondence Algorithm for Computer Vision**

[October 2010]

- Implemented the famous Tombari et al Stereo Correspondence Algorithm based on adaptive support for finding depth of objects in Stereo Images under the guidance of Dr. Ram Nevatia.  
(*VC++, OpenCV*)

### **Image segmentation for Computer Vision**

[September 2010]

- Implemented and analyzed Image Segmentation using the k-Means Segmentor and the Mean-Shift Segmentor under the guidance of Dr. Ram Nevatia.  
(*VC++, OpenCV*)

### **Character Animation (Rigging, Skinning and Keyframe Animation)**

[May 2010]

- Animated characters which performed complex body motions under the effect of physical forces of nature for use in Multiplayer and Real-time games for the USC GamePipe Laboratory under the guidance of Prof. Scott Easley.  
(*Autodesk Maya; MEL scripting*)

### **Music Visualization in 3D**

[April 2010]

- Designed a Music Visualization Application for the hearing-impaired representing the change in input sound Frequency as change in motion of 3D objects under the guidance of Dr. Sathyanaraya Raghavachary.  
(*OpenGL, Eclipse, Java*)

### **The Facebook – Veoh Mashup**

[April 2010]

- Designed and launched a Facebook Application which enabled users to post Videos from Veoh.com directly to their Profile Walls under the guidance of Prof. Marco Papa.  
(*Javascript, Java Servlets, PERL, CSS, HTML*)

### **OTHER SKILLS**

- Art: Digital Art, Caricatures, Cartoons, Storyboarding for Comic Strips and Animations.
- Music: Lead Vocals, Violin, Guitar (Acoustic-Rhythm and Electric-Leads), Flute.
- Photography: Landscapes, Human Portraits, Abstract Frames.