

# ARASH GHODSI

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## OBJECTIVE

A challenging, exciting, dynamic position as a game programmer, where I can utilize my engineering talent and artistic skill while satisfying my lifelong passion for video games.

## ACADEMIC EXPERIENCE

### EDUCATION

**Computer Science** BA from the University of California, Santa Cruz

June 2011

### SOFTWARE DEVELOPMENT

**3D First Person Shooter** — Coauthored an OpenGL based 3D FPS. Developed the player model, animations, camera system, UI, physics and collision detection. Worked on modeling and texturing the environment and developed its atmospheric and lighting-related effects. (Class project which placed top among peer projects)

**Cloth Physics** — Physically-based animation of a swinging hula skirt. The motion is simulated using spring forces at each edge connecting the vertices of the skirt's triangular mesh. The external forces are a time varying oscillatory motion and gravity. (Class project which placed top among peer projects)

**Ragdoll Physics** — Implemented a hierarchical ragdoll physics system for a humanoid with 13 joints. The physics were simulated using angular springs and forces.

**Line Integral Convolution (LIC) Imaging** — Wrote an image processing application which displays a source image upon which the user draws vectors which are used to generate an interpolated flow field using Shepard's interpolation; the vector field is then imaged using LIC in real time.

**Theory** — algorithms, complexity theory, programming languages, object-oriented programming, data structures

**Applications** — graphics, game programming, game engines, animation, data visualization

**Mathematics** — linear algebra, discrete math, differential equations, computational models, set theory, probability, 2D/3D geometry, 4D homogeneous coordinates, quaternions

**Programming Languages** — C/C++, C#, Java, Perl, Assembly, MATLAB, UnrealScript

### ART AND DESIGN

**Web Design** — HTML, CSS, JavaScript, Flash (see <http://evofusion.starlightservers.com/flash>)

**Game Design** — OpenGL, XNA, Unreal Engine. Experienced in game engine design, high level game conceptualization, physics, modeling, animation, environment and atmosphere implementation, UI, enemy AI

**Visual Design** — Drawing and photography as a hobby (see <http://evofusion.deviantart.com/gallery/>)

### AWARDS

**Campus Merit Sage Scholarship** 2009

Scholarship acknowledging academic excellence. Must maintain a 3.0 GPA

**National SMART Grant** 2008

Third and fourth year undergraduate in science or engineering discipline with 3.0 GPA

**Dean's Honor Student** (community college) 2004-2006

Honor given to those you maintain a 3.5 GPA or higher

**Alpha Gamma Sigma Member** (community college)

AGS is a California community college Honor Society. Membership requires maintaining a 3.0 GPA

**Gene S. Miller Scholarship** (community college)

References and portfolio work available upon request