

ANANYA ACHARYA

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ABOUT

Multi-faceted and an efficient professional with a diverse skill set and experience encompassing web development, software development and server administration. Seeking a full-time opportunity as a computer science engineer.

ACADEMIC PROJECTS

SCALABLE NETWORKED GAMES INFRASTRUCTURE USING ELASTIC CLOUD COMPUTE

(Directed Research Project - Fall 2015)

Infrastructure that processes real-time scientific computations from large scale multiplayer MMORTS game on cloud platforms. Working on implementing path finding algorithm for N-Body simulation using OpenCL kernel to split computation across node servers.

Results - Simulations on low-end smartphones are 2.5x faster than Core i7.

INFORMATION RETRIEVAL & SEARCH ENGINES – NASA POLAR DATASET (Spring 2015)

Crawled three polar and arctic data repositories using Apache Nutch and Tika. Built two URL filter plugins for Nutch to perform de-duplication at the time of crawling. Designed and implemented content-based and link-based ranking algorithms on the indexed data using Solr and Lucene. Constructed Polar data visualization using D3.js and Banana Analytics.

[youtube.com/watch?v=ao6v5QQsFFY](https://www.youtube.com/watch?v=ao6v5QQsFFY)

ARTIFICIAL INTELLIGENCE – REVERSI GAME (Fall 2014)

Developed a program that determines the best possible moves for a player, looking at N-moves ahead (depth) using adversarial search algorithms with positional weight evaluation functions.

3D GRAPHICS – SCREEN SPACE AMBIENT OCCLUSION (Fall 2014)

Extended GzLibrary to implement real-time screen space ambient occlusion, a technique developed for the 2007 video game Crysis, using the depth buffer. This improved rendering frame rate by 30%.

FINANCE STOCK SEARCH APPLICATION (Spring 2014)

Developed a HTML5 web app and android application using Ajax to interact with Java servlet (on Amazon AWS). Used Yahoo finance API and incorporated Facebook JavaScript SDK for 'share' feature.

EDUCATION

2014 - NOW **MASTER OF SCIENCE - Computer Science**
(Expected graduation - Dec 2015)

University of Southern California

Los Angeles, California 90089

GPA: 3.54

Courses: Analysis of Algorithms, Information Retrieval & Search Engines, Operating Systems, Artificial Intelligence, Web Technologies, 3D Graphics & Rendering, Animation & Simulation

2007 - 2011 **BACHELOR OF ENGINEERING - Information Science and Engineering**

Visvesvaraya Technological University

Karnataka, India 590014

Grade: First class with distinction

Project: Job scheduling in a grid computing environment.

EXPERIENCE

2014 - NOW **GRADUATE ASSISTANT - The Graduate School Office of the Provost, USC**

Web Developer and Server Administrator.

Integrated SpreadJS into PhD Processing web application, providing javascript control to the existing ASP.NET MVC5 application.

Built Fellowship Travel grant processing web application. Planned & implemented migration of USC Graduate School physical server infrastructure to virtual environment.

2011 - 2013 **ASSOCIATE SOFTWARE ENGINEER - CSC Computer Sciences Corporation India Pvt Ltd**

Application development & application patching. Worked on building updates for the existing Rio-Tinto internal operations application. Developed scripts to automate deployment and installation of patches and updates. Worked for a while on the server infrastructure operations team.

ACHIEVEMENTS

AUG 2012 **RECOGNITION OF LEADERSHIP AWARD**
RioTinto Wintel Team

Development of application patches.

JAN 2012 **RECOGNITION OF OUTSTANDING WORK AND INNOVATION**

Automation of server-infrastructure operations.

SKILLS

C, C++

JAVASCRIPT

JAVA, SQL

HTML, CSS