

Luis Ángel

Larios Cárdenas

Computer Scientist

ultimate_luis@hotmail.com
www.linkedin.com/in/InfiniteLAngel
www.youngmin.com.mx

Education

Completed coursework in pursuit of PhD in Computer Science

University of California, Los Angeles (UCLA)
2013 - 2016

Master of science in Computer Science

University of California, Los Angeles
2010 - 2012

Bachelor's of engineering in Computer Systems

Technological Institute of Ciudad Guzmán (ITCG)
2003 - 2008

General baccalaureate · High school diploma

Regional High School of Ciudad Guzmán at Tecalitlán, University of Guadalajara (UDG)
2000 - 2003

Languages

Spanish Native speaker
English TOEFL IBT 110 points certified
Korean Basic proficiency

Skills

Computer graphics

OpenGL and WebGL programming and animation

Artificial intelligence and life

Genetic algorithms, reinforcement learning, neural networks, and support vector machines

Scientific computing

Physics-based simulations in Open Dynamics Engine (ODE), image processing, particle systems; MATLAB, C/C++, Python (Pylab, Numpy), and R programming

Software development

Information systems (database management) and desktop applications programming on C/C++, Java, Visual Basic, and Delphi. Version control systems usage: GIT and SVN

Full stack development and Big Data analytics

Web applications and services programming using PHP, Java Servlets, JSPs, Apache (Tomcat, Lucene, Axis2), MySQL, MonetDB, HTML, XML, Javascript (jQuery and other plugins), CSS, and Logi Analytics

Graphic design

Use of Adobe Creative Suite (Dreamweaver, Flash, Photoshop, Illustrator, InDesign) and Corel Draw

General-purpose software

Use of Windows, Linux (Ubuntu/CentOS), Mac OS X, and Microsoft Office (Word, Power Point, and Excel). Use of IDEs for software development such as IntelliJ IDEA, Xcode, Visual Studio, and Eclipse

Professional Experience

Software engineer

Inpixon. Front end development of *ZoneAware/ZoneDefense* (GPS for the indoors) and full stack development of *Visual Workbench* (using Logi Analytics and MonetDB) (June 2016 - today)

Web developer

Self-employment. Design and programming of a website for Tecalitlán Tourism Bureau: www.tecalitlan.youngmin.com.mx (April 2016)

Teaching assistant

UCLA. Leading discussion and preparing materials for the following courses: *Mathematical Models and Methods for Computer Science* (Fall 2014, Winter 2016), *Web Applications* (Winter 2015), and *Introduction to Computer Science 1* (Spring 2015)

Web developer

Villas Camino del Mar resorts. Development and maintenance of company website: www.villascaminodelmar.com.mx (2008 - 2016)

Web developer

Self-employment. Web application development for the Mexican federal program "Agenda for Municipal Development": www.agenda.youngmin.com.mx (2011 - 2015)

Software and web developer, and graphic designer

Municipal Government of Tecalitlán, Jalisco, regent from 2012 through 2015: www.tecalitlan.gob.mx (2012 - 2013)

Lecturer

Technological Institute of Ciudad Guzmán. Teaching courses of *Simulation* and *Artificial Neural Networks* (Fall semester, 2012)

Head of the Information Technologies department

Municipal Government of Tecalitlán, Jalisco, regent from 2010 through 2012; web and software developer and graphic designer of government digital image: www.tecalitlan.gob.mx (2010)

Web developer

Tourism Bureau, Municipal Government of Tecalitlán, Jalisco, regent from 2007 through 2009 (2009)

Featured Projects

Arthropoda

A physics-based simulation of a biomechanical model of an *Araneous Diadematus* specimen. The spider is able to walk by using ODE for dynamics emulation and OpenGL for rendering

Lisa

A physics-based simulation of a biomechanical model of a salamander, capable of walking and swimming. The system uses ODE for dynamics computation and OpenGL for rendering

Shine

Web service to disambiguate entities that are semantically and probabilistically correlated in a text fragment. The application uses Wikipedia

(as of 2013) to find out the right entities that appear in the user input

Disambiguation of named entities in a list

System that yields the correct mapping for mentioned entities in a list by using optimization (simulated annealing). Our application utilizes Wikipedia (as of 2012) as knowledge base to define the metrics and semantics used in the mapping process

Snow simulation

2D physics-based simulation of snow by using the material point method. We emulate the mechanics, viscosity, and composition of snow as the latter is affected by external and internal forces. The system is developed in C++ and OpenGL

Face classification and generation

MATLAB application that uses Singular Value Decomposition and other image-processing machinery to classify male and female faces. Further statistical analysis allows to generate random faces given the intensity and geometry features extracted from the training set

Antarctica, exploring the MAXSON architecture

Simulation of an artificial ecosystem where virtual creatures learn to survive by eating food and avoiding poison, and to reproduce in order to maintain the continuity of their species. The agents emulate natural phenomena such as nuptial feeding and male brooding by resorting to a neural-based reinforcement learning

A symmetry-seeking model for 3D object reconstruction using a mesh of particles

Three-dimensional object reconstruction from 2D input images using a mesh of particles connected by springs. The particle mesh deforms into the pursued shape as internal forces (elasticity) react to external forces (image, symmetry, and expansion/contraction)

Auction web service

Web application that implements an auction website using Java, MySQL, Apache (Lucene, Tomcat, and Axis2), Javascript, and AJAX

Multi-agent simulation using continuum crowds

Crowd simulation where agent behavior resembles fluid motion. The displacement of agents depends on crowd densities at different locations in a discrete environment that represents a potential/velocity field

Darwinism, Lamarckism, and knowledge exchange among animals

Simulation of an artificial ecosystem where animal-like creatures learn to survive from two evolutionary perspectives: Darwinism and Lamarckism. Agents have egocentric maps that allow them to acquire and share knowledge about the environment they live in

Neural model for predicting volcanic events

Development of a neural net that predicts a volcanic eruption based on current input data and historic information that was used for training

Drugstore information system

Stock-management desktop application to control sales, purchases, and product reservations in a drugstore. Our system is written in Delphi and developed with the highest standards in software engineering

Publications

Neural model for predicting volcanic events

2008 Jalisco Science and Technology Award

Neural net model for predicting volcanic events of El Colima

2008 International Congress of Computer Science and Information Technologies

Processing vulnerability maps data with neural nets

2008 International Congress of Computer Science and Information Technologies

Presentations and Academic Events

A talk about computer science: Regional High School of Ciudad Guzmán at Tecalitlán, UDG (2013)

A symmetry-seeking model for 3D object reconstruction using a mesh of particles: Information Technologies National Congress. ITCG (2012)

A talk about artificial intelligence: 19th Science and Technology State Week. Jalisco Science and Technology State Council (2012)

Neural net model for predicting volcanic events of El Colima: 2008 International Congress of Computer Science and Information Technologies. ITCG (2008)

Processing vulnerability maps data with neural nets: 2008 International Congress of Computer Science and Information Technologies. ITCG (2008)

Participant: ITESO Eighth Local Programming Contest. ITESO (2007)

Access system based on phone cards: 21th National Creativity Event, Regional Stage, 3rd Region. Technological Institute of La Laguna (2006)

Access system based on phone cards: 4th Regional Exhibition and Technological Innovation Award. Technological Institute of Morelia (2006)

Attendee: 2004 International Congress of Computer Science and Information Technologies. ITCG (2004)

Fellowships

CONACyT "Bicentennial" Mexican fellowship for graduate studies abroad (2010 - 2012)

PRONABES fellowship for undergraduate students (2003 - 2008)

Awards

First place graduate from the Computer Systems Engineering at his institution in 2008, by the Mexican National Association of Engineering Schools (June 2009)

Science and Technology Award, "Early Research" category, by Jalisco Science and Technology State Council (February 2009)

Excellence Medal to the Engineering Student, by ITCG (September 2008)

Highest GPA in the 2003-2008 Class of the Computer Systems Engineering Program, by ITCG (September 2008)

Graduated with honors, (GPA of 99.5), in the 2003-2008 Class of the Computer Systems Engineering Program, by ITCG (September 2008)

Satisfactory conclusion of the Networking and Distributed Systems Field in the 2003-2008 Class of the Computer Systems Engineering Program, by ITCG (September 2008)

Participant in the university program "Tutoring Peers", by UDG (July 2003 and July 2002)

First place in high school academic performance in the 2000-2003 Class, by UDG (July 2003)

First place in academic performance of the 4th, 3rd, 2nd, and 1st high school semesters, by UDG (July 2002, February 2002, July 2001, and January 2001, respectively)