Alejandro Echeverría

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Pontificia Universidad Católica de Chile
Department of Computer Science
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Education

Ph.D., Computer Science, 2012, Pontificia Universidad Católica de Chile; GPA: 7.0 of 7.0
> Advisor: Miguel Nussbaum

M.S., Computer Science (Honours), 2009, Pontificia Universidad Católica de Chile; GPA: 6.9 of 7.0

B.S., Computer Engineering (Honours), 2008, Pontificia Universidad Católica de Chile; GPA: 6.1 of 7.0 (top 5 %)

Research and Professional Experience

BOAMine, 2012-present
> *Senior Software Development Engineer*

> Developing innovative software products for the mining industry.

Microsoft Research, 2011
> *Research Internship*

> Research project with the Machine Learning group, studying the effects of different activities and games on memory and information retention.

Pontificia Universidad Católica, 2009-present,
> *Adjunct Instructor*

> Computer Graphics, 1st semester, 2013

> Introduction to Programming, 2nd semester, 2012

> Computer Graphics, 1st semester, 2012

> Computer Architecture, 1st semester, 2011

> Computer Graphics, 1st semester, 2011

> Introduction to Programming, Summer course, 2011

> Computer Architecture, 2nd semester, 2010

> Computer Graphics, 1st semester, 2010

> Introduction to Programming, 2nd semester, 2009

Games for Learning Institute, 2009-2012,
> *Researcher*

> Developing learning games to practice basic geometrical thinking skills (HTML, SVG).

CREATE lab @ NYU Steinhardt, 2010,
> *Researcher*

> An augmented reality learning environment for New York City, used to teach physics to highscool students (C#, XNA).

Woodtech M.S., 2008-2009,
> *Software engineer*

> Developing calibration software for truck load measurement using laser rangefinders (Java, Swing).

> Developing novel user interfaces for managing truck load measurement using laser rangefinders (Java, Swing).

Independent Developer & Consultant, 2005-present,

> **Woodtech M.S.**, 2010-present

> > A tool for automatizing the update process of the Logmeter line of products (Java).

> **MIDE UC**, 2009-2010

A Virtual OS and Office suite applications, that included: a file explorer, a slide editor, a spreadsheet editor, a document editor and a browser (C#, WPF). The complete system is being used for testing Chilean teacher's skills doing traditional computer tasks.

Eduinnova, 2009

Multiple mice application to support a one-to-many environment for co-located collaboration (C#, MultiPoint SDK).

Santiago Fire Department, 2008

Project manager, developing a prototype of a GPS locating system for firetruck tracking and map visualization, including: a mobile component for information gathering (C#, .Net Compact Framework), a web server for gathering data and displaying it in realtime on a map (C#, ASP.Net, Google Maps), and an extension for a GIS mapping tool (C#, ArcGIS) .

AURUM S.A., 2007-2010

Developing software extensions for GIS mapping applications (C#, ArcGIS).

CETIUC, 2007

Developing web services for banking transactions (JBoss).

Technical Skills

Extensive experience with object oriented programming languages: C++ (4 years), Java (6 years) and C# (5 years).

Extensive experience developing desktop user interfaces: Java Swing (4 years) and WPF (3 years).

Game development and 3D graphics experience using XNA (3 years), OpenGL (2 years) and Processing (3 years).

Experience developing mobile applications: PocketPC and Smartphone with .NET Compact Framework.

Programming experience in embedded devices: C, assembly x86 and assembly PIC.

Sever side web development experience: PHP and ASP.Net.

Client side web development experience: HTML, Javascript and CSS.

Database design experience: MySQL, PostgreSQL and SQLServer.

Scientific programming and data analysis experience using MATLAB and Python.

Research Interests

Educational technologies and game design.

Human computation.

Human-Computer input technologies.

Co-located collaboration.

Virtual, Augmented and Mixed reality environments.

User interface design.

GPU computing and parallel programming.

Publications
Journals (ISI)

«*The Atomic Intrinsic Integration Approach: A structured methodology for the design of games for the conceptual understanding of physics*» (2012)
Alejandro Echeverría, Enrique Barrios, Miguel Nussbaum, Matías Améstica, Sandra Leclerc
Computers & Education, 59 (2), 806-816.

«*Exploring different technological platforms for supporting co-located collaborative games in the classroom*» (2012)
Alejandro Echeverría, Matías Améstica, Francisca Gil, Miguel Nussbaum, Enrique Barrios, Sandra Leclerc
Computers in Human Behaviour, 28 (4), 1170-1177.

«*Design Guidelines for Classroom Multiplayer Presential Games (CMPG)*» (2011)
Marco Villalta, Ignacio Gajardo, Miguel Nussbaum, Juan Jose Andreu, Alejandro Echeverria, Jan Plass
Computers & Education, 57 (3), 2039-2053.

«*A framework for the design and integration of collaborative classroom games* » (2011)
Alejandro Echeverría, Cristian García-Campo, Miguel Nussbaum, Francisca Gil, Marco Villalta, Matías Améstica, Sebastián Echeverría
Computers & Education, 57 (1), 1127-1136.

«*Face to Face Collaborative Learning Supported by Mobile Phones*» (2011)
Alejandro Echeverría, Miguel Nussbaum, Juan Felipe Calderón, Claudio Bravo, Andrea Vásquez
Interactive Learning Environments, 19 (4), 351-363.

Conferences

«Collaborative 1:1 with emerging markets available ICTs» (2008)
    Miguel Nussbaum, Cristián Infante, Pedro Hidalgo, Tomás Reyes, Juan Weitz, Andrés Goettlieb, Alejandro Echeverría, Juan Felipe Calderón, Claudio Bravo
    The 16th International Conference on Computers in Education, Taiwan, 2008.

Workshops

«Collaborative Immersive Environments for the classroom» (2010)
    Alejandro Echeverría, Miguel Nussbaum, Francisca Gil, Sebastián Echeverría
    ACM CHI, Workshop: Next Generation HCI for Education, 2010.

Talks

International events

«Teaching electrostatics through AR»
    ARNY Meetup, New York, 2010

Honors and awards

Honours Tuition Scolarship, 2003, Pontificia Universidad Católica.

Best student of Computer Engineering, Class 2008, Department of Computer Science, Pontificia Universidad Católica.

Doctoral Studies 2009-2012 Scholarship, CONICYT, Government of Chile.

Reviewer

Computers & Education (2010-present).

Other Skills

Languages: Spanish (native), English (advanced), notions of French and Mandarin.