

Axel Elián Brzostowski

Photographer & Software Developer

axelbrz@gmail.com

Summary

Proactive and enthusiastic developer. Winner of many National & International Prizes. Interested in developing a very huge and important project. Also an amateur photographer who loves the hobby and making people happy with their photos. Specialties: Algorithms, programming, problem solving, machine learning, artificial intelligence.

Experience

Co-creator & Developer at Layx

January 2014 - Present (1 year 1 month)

Layx is a simple new layout language for web based on Cassowary, the constraint solving toolkit Apple is using for their user interfaces (Auto Layout). It is designed to be simple and easy to learn, read and write; and could be considered as an alternative to HTML for small sites that require beautiful designs.

Fotógrafo / Photographer at Independiente

December 2013 - Present (1 year 2 months)

Fotógrafo Freelance Independiente: Eventos, Recitales, Bandas, Sociales, Cumpleaños, Espectáculos, Retratos. Consultar particulares. Más fotos en mi portolio: flickr.com/axelbrz

1 recommendation available upon request

Independent Software Developer at Self-employed

November 2012 - Present (2 years 3 months)

Developing some projects by my own and others with friends. Applying all my background and experience together, as well as learning new stuff in various fields.

Founder & Independent Cognitive Science Researcher at CustomMind

March 2012 - February 2013 (1 year)

Developed a theoretical model of knowledge representation. Keywords: Knowledge Representation, Brain, Dialog System, Language, Socialization.

SSr. Software Developer at Despegar.com

February 2012 - November 2012 (10 months)

Semi Senior Developer for Flights Team. - Developer of Proxy-based Distributed System Prototype for time improvements. - Developer of Internal Services for Flights Team to improve response times. - Developer in the process of communication between providers and Despegar.com. - Developer of Price Prediction System

for Flights Team as Research & Development Project. Keywords: Java, Groovy, Maven, Spring, JUnit, Tomcat, SOAP, Eclipse, Kanban, Weka.

Teaching Assistant at Universidad de Buenos Aires

March 2011 - February 2012 (1 year)

Teaching Assistant of Algorithms and Data Structures II. Two semesters. - Responsible for teaching. - Responsible for preparing exams and for correcting them. - Responsible for helping and guiding students in projects. Keywords: Abstract Data Types, Data Structures, Design, Sorting, D&C, Complexity.

2 recommendations available upon request

iOS Developer at MetroGames

July 2010 - December 2010 (6 months)

- Developer of Typing Maniac videogame for iOS / iPhone (Mobile). - Designer & Developer of much of the Framework for iOS development. - Designer & Developer of Touch & Accelerometer Controllers. - Designer & Developer of iOS similar-KeyBoard System. - Creator of a tool for converting ActionScript to Objective-C code. Keywords: Objective-C, iOS, Cocos2D, Mac OS X, Xcode, OOP, Time Profiling, Optimization.

1 recommendation available upon request

Exploit Writer & Developer for Web Applications at Core Security Technologies

May 2007 - January 2008 (9 months)

- Developer for CORE IMPACT ®. - Responsible for adapting the PHP Remote File Inclusion module to the Web Section. - Co-author of "System and Method for Providing Application Penetration Testing" patent. - Participant in the creation of SQL Injection module for exploiting (MySQL, MSSQL, Oracle). - Creator & Developer of Remote Access Terminal using SQL Injections (for Windows, Linux). - Creator & Developer of Web Server Fingerprint retrieval (IIS, Apache, more). - Creator & Developer of exploits for attacking CMS (Wordpress, IPB, phpBB, more). Keywords: Python, PHP, SQL, Crawlers, CMS, Databases, Testing, Reverse Engineering.

3 recommendations available upon request

Exploit Writer & Developer for Desktop Applications at Core Security Technologies

May 2006 - April 2007 (1 year)

- Developer for CORE IMPACT ®. - Developer of an exploit to scale privileges in Ubuntu. - Developer of an exploit to attack a Microsoft Service under Windows XP & 2000. - Creator & Developer of the PHP Remote File Inclusion exploit & module. - Creator of some problems for CORETEX3 Programming Contest. - Manager of CORETEX3 Programming Contest WebPage. Keywords: Python, Assembly, Overflow, OllyDBG, GDB, IDA, VMware, Reverse Engineering.

4 recommendations available upon request

Volunteer Experience

Volunteer NLP Researcher at Universidad de Buenos Aires

July 2011 - December 2011 (6 months)

Joined to Natural Language Processing Research Group. Provided and developed a theoretical model (and its implementation) of knowledge representation which facilitates the resolution of queries or questions posed in natural language, to help develop a new way of communication between humans and computers. Keywords: Knowledge Representation, Dialog Systems, Information Extraction, Text Mining.

Webmaster & Web Developer at Neo Security Team | Security Researchers

December 2006 - July 2007 (8 months)

Improved the Website and the NST Online Contest to encourage users to think and their willingness to do self-learning activities. - Co-Administrator, Architect & Developer of the NST Online Contest & Website. - Creator of many challenges for NST Online Contest. Keywords: Back-end, PHP, IPB, SQL, MySQL, Front-end, HTML, CSS, JavaScript, Security.

Software Engineer (Academic Volunteer) at CARE | Centro de Asistencia y Rehabilitación Especial

March 2005 - December 2005 (10 months)

Designed the Talkative Web software for CARE, a Web Browser for blind people chosen as a Special Final Project from my High School, to make possible their access to the Web. It was donated to CARE in 2005 and used for training in a National Training Program for people with disabilities organized by CARE and Telefonica Foundation in 2006.

Teacher of Microsoft Windows + Internet + Network Theory at Escuelas Técnicas ORT

July 2004 - December 2004 (6 months)

Directed to adult and older people to bring them to the use of computers. I created my own slides for classes and chose my own material.

Teacher of Microsoft Windows + Internet + Microsoft Word at Escuelas Técnicas ORT

July 2003 - December 2003 (6 months)

Directed to adult and older people to bring them to the use of computers. I created my own slides for classes and chose my own material.

Honors and Awards

Second Prize in ACM-ICPC South America/South (of 150+)

ACM - Association for Computing Machinery. Sponsored by IBM.

November 2012

C/C++, Advanced Algorithms, Data Structures, Graphs, Simulations, Maths, Teamwork.

Fourth Prize in the National Collegiate Programming Contest (TAP)

ACM, IBM & National Universities: UBA, UNC, UNER, UNL, UNLM, UNLP, UNS, UNSL, UTN-BB, UTN-LP.

September 2012

C++. Advanced Algorithms, Data Structures, Graphs, Simulations, Maths, Logic, Teamwork.

Third Prize in Google Games Argentina Competition

Google

July 2012

Googlers, Technical Students, Trivia, Puzzles, Legos, Coding Problems.

6th place in ACM-ICPC South America/South (of 140+)

ACM - Association for Computing Machinery. Sponsored by IBM.

November 2011

C/C++, Advanced Algorithms, Data Structures, Graphs, Simulations, Maths, Teamwork.

Fourth Prize in the National Collegiate Programming Contest (TAIP)

ACM, IBM & National Universities: FCEyN, UBA; FI, UNLP; FAMAF, UNC; FICH, UNL.

September 2011

C++. Advanced Algorithms, Data Structures, Graphs, Simulations, Maths, Logic, Teamwork.

7th place in ACM-ICPC South America/South (of 130+)

ACM - Association for Computing Machinery. Sponsored by IBM.

October 2009

C/C++, Advanced Algorithms, Data Structures, Graphs, Simulations, Maths, Teamwork.

Winner sub19 of CORETEX2 - National Programming & Security Contest

Core Security Technologies

2006

C/C++. Algorithms, Complexity, Problem Solving, Hacking, Vulnerabilities, Bugs, Exploitation.

Profile of "USERS .code #22" Magazine

RedUsers, M.P. Ediciones

2006

Exclusive interview for USERS .code Magazine. Published in the Profile section of #22.

Winner sub19 of CORETEX1 - National Programming & Security Contest

Core Security Technologies

2005

Programmed in C / C++. Used Visual Basic to develop a tool to hack the other programs.

Second Prize in National ITBA Programming Contest

Buenos Aires Institute of Technology (ITBA)

2005

PHP. Algorithms, Data Structures, Programming, Complexity, Optimization, Problem Solving. I had to develop and implement an efficient algorithm in some programming language to solve a particular problem.

To chose the winning works, it was considered the optimizations of data processing in terms of memory used, efficiency of the code, robustness of the application, avoiding redundancy.

Winner sub19 of CORETEX0 - National Programming & Security Contest

Core Security Technologies

2005

C/C++. Algorithms, Complexity, Problem Solving, Hacking, Vulnerabilities, Bugs, Exploitation.

Silver Medal in the Ibero-American Olympiad in Informatics (CIIC)

National Olympiad in Informatics

2005

C++. Algorithms, Data Structures, Programming, Complexity, Optimization, Problem Solving.

4th place in the National Olympiad in Informatics (OIA)

National Olympiad in Informatics

2005

C++. Algorithms, Data Structures, Programming, Complexity, Optimization, Problem Solving.

First Prize in the Metropolitan Olympiad in Informatics (OMI)

National Olympiad in Informatics

2005

C++. Algorithms, Data Structures, Programming, Complexity, Optimization, Problem Solving.

Second Prize in the Metropolitan Olympiad in Informatics

National Olympiad in Informatics

2004

C++. Algorithms, Data Structures, Programming, Complexity, Optimization, Problem Solving.

Second Prize in the National Olympiad in Informatics (OIA)

National Olympiad in Informatics

2003

C++. Algorithms, Data Structures, Programming, Complexity, Optimization, Problem Solving.

Finalist in the National Mathematical Olympiad (OMA)

National Mathematical Olympiad

2002

Maths, Lateral Thinking, Algebra, Analysis, Geometry, Combinatorics, Logic, Problem Solving.

First Prize in the Metropolitan Olympiad in Informatics (OMI)

National Olympiad in Informatics

2002

QuickBasic / Basic / QBasic. Algorithms, Data Structures, Programming, Problem Solving.

First place in ProjectEuler Argentina Scoreboard

ProjectEuler.net

Online Computer Science & Mathematical Competition - <http://www.projecteuler.net/> C/C++, Python, PARI/GP, Algorithms, Data Structures, Programming, Complexity, Optimization, Maths, Mathematics, Lateral Thinking, Algebra, Analysis, Geometry, Computational Geometry, Combinatorics, Probabilities, Logic, Problem Solving.

Projects

Layx Layout Language

January 2014 to Present

Members:Axel Elián Brzostowski, Matias Altalef

Layx is a simple new layout language for web based on Cassowary, the constraint solving toolkit Apple is using for their user interfaces (Auto Layout). It is designed to be simple and easy to learn, read and write; and could be considered as an alternative to HTML for small sites that require beautiful designs.

CustomMind

March 2012 to Present

Members:Axel Elián Brzostowski

Knowledge, Brain, Dialog, Language, Socialization, Communication, Thinking, Reasoning.

MiniGrama.com

November 2012 to January 2013

Members:Axel Elián Brzostowski

Simple Web Based Prototype for Anonymous Messages

Phase Vocoder: Pitch Shifter & Time Stretcher @ Comp. Org. & Arch. II course

May 2013 to Present

Members:Axel Elián Brzostowski

Assembly, IA-32, SIMD, SSE, XMM, FFT, DFT, Fast Fourier Transform, Time Domain, Signal Processing.

Movie Recommendation System @ Machine Learning course

2011 to Present

Members:Axel Elián Brzostowski, Pablo Zivic, Gabriel Guardincerri, Ernesto Mislej

Content-based, Rules-based & Collaborative Filtering. Movies to Users & vice versa.

Captcha Breaker & OCR System @ Machine Learning course

2011 to 2011

Members:Axel Elián Brzostowski

Kohonen Maps, k-NN, MLP, Noise Reduction, Boundary Detection, Image Processing.

Fast Filtering applied to Audio Streaming @ FPGA course

2011 to 2011

Members:Axel Elián Brzostowski, Leandro Nahabedian

Fast circular buffer scheme for FPGA. Implemented with Verilog HDL. Echo implemented.

Dialog System (Chatbot) @ Natural Language Processing course

2011 to 2011

Members:Axel Elián Brzostowski, Marco Mustapic, Hernán Lipshitz

Frame-based system using Entity Recognition. Innovation in data structure used. NLP.

Tokenizer for English Language @ Natural Language Processing course

2011 to 2021

Members:Axel Elián Brzostowski

Included paragraphs and phrases separation. Abbreviation and Contractions supported. NLP.

Typing Maniac for iOS

August 2010 to December 2010

Members:Axel Elián Brzostowski, Gustavo Santome

Popular and addictive Facebook video game developed for iPhone / iOS. Try it! Alternative link: <http://www.metrogames.com/iphone/typing-maniac>

Operating System Prototype for IA-32 @ Computer Org. & Arch. II course

2009 to 2009

Members:Axel Elián Brzostowski, Cristian Javier Martinez, Leandro Nahabedian

Protected mode, Paging, Interrupt, Task Switching. C, Assembly, GDT, IDT. Tasks running.

Fast Image Edge Detection in Assembly @ Computer Org. & Arch. II course

2009 to 2009

Members:Axel Elián Brzostowski, Cristian Javier Martinez, Leandro Nahabedian

IA-32, x86. Used SIMD Model with SSE Instructions and XMM Registers. Image Processing.

Tiny First-person shooter with my own 3D Graphics Engine in C#.NET

December 2005 to June 2006

Members:Axel Elián Brzostowski

Object-oriented, Z-buffering implementation, OpenGL, Visual Studio .NET, Wall Collision.

Talkative Web - Internet Browser for people with disabilities

March 2005 to December 2005

Members:Axel Elián Brzostowski

Web Browser for Blind People in Visual Basic. No monitor required but keyboard & speakers. TTS. Used for teaching in a National Training Program by CARE & Telefonica Foundation.

Artificial Intelligence Agent Prototype

2006 to 2006

Members:Axel Elián Brzostowski, Matias Altalef

Patents

System and Method for Providing Application Penetration Testing

United States Patent 20080263671 Issued October 23, 2008

Inventors: Axel Elián Brzostowski, Gerardo Richarte, Fernando Russ, Diego Kelyacoubian, Ariel Futoransky, Diego Tiscornia, Ariel Waissbein, Adrian Manrique, Javier de Acha Campos, Sebastian Cufre, Alberto Soliño

A system and method provide application penetration testing. The system contains logic configured to find at least one vulnerability in the application so as to gain access to data associated with the application, logic configured to confirm the vulnerability and determine if the application can be compromised, and logic configured to compromise and analyze the application by extracting or manipulating data from a database associated with the application. In addition, the method provides for penetration testing of a target by: receiving at least one confirmed vulnerability of the target; receiving a method for compromising the confirmed vulnerability of the target; installing a network agent on the target in accordance with the method, wherein the network agent allows a penetration tester to execute arbitrary operating system commands on the target; and executing the arbitrary operating system commands on the target to analyze risk to which the target may be exposed.

Organizations

ACM | Association for Computing Machinery

Student Member: 2724611

April 2012 to April 2014

Mensa | The International High IQ Society

Member in Good Standing

June 2008 to Present

Project Euler | Mathematical & Computer programming problems

Member - 1st place in Argentina Scoreboard

2007 to Present

TopCoder, Inc. | World's largest development community

Member: 20166836 - Algorithms & Marathon Matches

December 2005 to Present

Courses

Art Related

Drama / Acting Course

Photography Course

Piano Classes

BSc & MSc, Computer Science

Universidad de Buenos Aires

Algorithms & Data Structures I

Algorithms & Data Structures II

Algorithms & Data Structures III

Computer Organization & Architecture I

Computer Organization & Architecture II

Algebra

Mathematical Analysis

Computational Neuroscience

Problems, Algorithms & Programming

FPGA-Based System Design

Logic & Computability

Theory of Languages

Natural Language Processing

Machine Learning

Operating Systems

Computational Social Science: Big Data Analysis as a

Means to Understand Human Behavior

Exploit Writer & Developer for Desktop Applications

Core Security Technologies

Assembly & Exploit Development, Nov. 2006

Independent Coursework

English for the World of Work - Professional Communication, UBA, Jan-Feb 2012.

English - Level 7 to 9. UBA, 2009-2011.

Leadership Course, Macabi, 2003-2004

Certifications

Assembly & Exploit Development

Core Security Technologies November 2006

Education

Universidad de Buenos Aires

BSc & MSc, Computer Science, 2008 - 2013

Activities and Societies: ACM-ICPC, GALLI, Research

2 recommendations available upon request

Escuela Técnica ORT

Technical baccalaureate, Computer Science, 2001 - 2005

Activities and Societies: Olympiad in Informatics, Mathematical Olympiad, OIA, OMA, CyM

3 recommendations available upon request

Art Related

Skills & Expertise

Problem Solving

Data Structures

Algorithms

Python

Natural Language Processing

Machine Learning

Teamwork

C++

Reverse Engineering

Computer Security

C
Java
Programming
Objective-C
Computer Science
Artificial Intelligence
Teaching
Linux
Apache
Software Engineering
Tomcat
Spring
MySQL
Photography
Lightroom
Graph Theory
iPhone
Assembly
Network Security
PHP
SQL
OOP
Eclipse
Databases
Web Applications

Languages

Spanish

(Native or bilingual proficiency)

English

Interests

Artificial intelligence, machine learning, problem solving, team working, algorithms, programming, research, graph theory, cognition, brain, things related to music, design, photography, synergy

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axelbrz@gmail.com



16 people have recommended Axel Elián

"Axel es un gran profesional, apasionado por la fotografía. Con tan sólo un clic, logra capturar imágenes espontáneas, llenas de colores y sensaciones. Con tan sólo posar su mirada en un instante, logra una captura utópica y casual. Lo recomiendo para futuros trabajos fotográficos por el gran talento y calidez que posee."

— **Evelyn Dueck**, *Fotógrafa, Plus Creativo*, worked with Axel Elián at Independiente

"Axel posee una capacidad superlativa para solucionar los problemas más difíciles, en general encontrando varias soluciones que siguen distintos hilos de pensamiento. Además de ser brillante, es una gran persona que mantiene siempre el buen humor y un trato ameno con los demás. Es por todo esto que trabajar con Axel es un verdadero placer."

— **Federico Martinez**, *Estudiante, Universidad de Buenos Aires*, worked directly with Axel Elián at Universidad de Buenos Aires

"Axel tuvo un excelente desempeño como docente en la materia. Lo destaco por el buen trato hacia los alumnos que tuvo, su inagotable curiosidad y entusiasmo por hacer que los mismos piensen en los problemas que les planteamos durante la cursada. Es un amigo al cual lo recomiendo por sus capacidades mentales y por estar siempre tratando de acompañar a los estudiantes cuando tienen alguna duda. Posee amplios conocimientos en distintas ramas de la computación, haciéndolo una gran referencia al momento de consultarle dudas."

— **Aaron Wang**, *Ayudante de Segunda, Facultad de Ciencias Exactas y Naturales, UBA*, worked directly with Axel Elián at Universidad de Buenos Aires

"Trabajé con Axel en el proyecto de Typing Maniac para iPhone. Es un profesional muy capaz y responsable pero lo más importante es que le gusta trabajar en equipo con otras áreas proponiendo mejoras e ideas que sumen para mejorar el producto final. Un profesional muy agradable y recomendable profesionalmente."

— **Gustavo Santome**, *Ilustrador / Diseñador / Animador, Metrogames*, worked directly with Axel Elián at MetroGames

"Axel showed a proactive and professional attitude towards all projects he received, and put an effort to successfully complete each one of them, thing he utterly accomplished for all."

— **Andrés Agnese**, *IT Manager, Core Security Technologies*, worked with Axel Elián at Core Security Technologies

"During the time I worked with Axel, I noted that he is a person who loves challenges and always tries to solve any computer problem that you give him. He has a big talent and puts much effort to do everything. I recommend Axel for challenging programming tasks where normal solutions do not work."

— **Nicolas Alejandro Economou**, *Exploit Writer Sr, Core Security Technologies*, worked directly with Axel Elián at Core Security Technologies

"He's the man. Axel has a lot of good ideas and the stamina to pull them into the real world! He's a moffo in his computer universe."

— **Jose Orlicki**, *Researcher, Core Security Technologies*, worked with Axel Elián at Core Security Technologies

"During the time I worked with Axel, I noted that he is a person who loves challenges and always tries to solve any computer problem that you give him. He has a big talent and puts much effort to do everything. I recommend Axel for challenging programming tasks where normal solutions do not work."

— **Nicolas Alejandro Economou**, *Exploit Writer Sr, Core Security Technologies*, worked directly with Axel Elián at Core Security Technologies

"Axel is a brilliant guy. He is very smart and always tries to find complex problems to solve. He is a really nice person and definitely a great professional for any company."

— **Sebastian Muñoz**, *Research Engineer / Exploit Writer, CORE Security Technologies*, managed Axel Elián indirectly at Core Security Technologies

"I worked with Axel and he likes a lot to try (and he does very well) to solve problems. This capability in addition to his programming skills is a combination that works very well in any development company."

— **Diego Kelyacoubian**, *Manager Exploits Development, Core Security Technologies*, managed Axel Elián at Core Security Technologies

"Axel has a lot of good ideas and the stamina to pull them into the real world!"

— **Jose Orlicki**, *Researcher, Core Security Technologies*, worked directly with Axel Elián at Core Security Technologies

"I met Axel some years ago when we were both participating in programming contests (where he got really good results), we both study in the same school so I know him a lot. He feels passion for what he does, he's a very good programmer, but he's not just that, he's also very intelligent and talented and he always gives his

best for everything he does. He never does just what he has to do but he always tries to do what he does in the best way possible. He's definitely the kind of programmer that the best companies in the world like hiring."

— **Leopoldo Taravilse**, *Estudiante, Universidad de Buenos Aires*, studied with Axel Elián at Universidad de Buenos Aires

"Axel is an impressively efficient and effective classmate. His work was always thorough and his insight into difficult problems instantaneous. I emphatically recommend him for any job that requires the greatest reasoning skills and thorough knowledge of efficient and effective programming and problem solving techniques."

— **Andrés Osinski**, *Independent development, self-employed*, studied with Axel Elián at Universidad de Buenos Aires

"Axel is one brilliant guy. He's always having great ideas and has a way of easily making you excited about them. Besides sharing countless debates (in which we would more often than not reach interesting conclusions or at least felt enriched) on a wide range of subjects when we were students together, I joined him in an Artificial Intelligence project he wanted to start. We had fun and learned lots in the process. Working with him on that was very enjoyable and we ended up with a very interesting piece of software. I would recommend Axel for any position that can take advantage of his very insightful thinking, creativity and proactivity."

— **Matias Altalef**, *Student, ORT*, studied with Axel Elián at Escuela Técnica ORT

"It is a great pleasure to teach something to a brilliant student. Axel is always interested in learning new cutting-edge stuff. Besides his outstanding skills in algorithms I was surprised with his teamwork attitude at all times, always helping his team or classmates. I have no doubt he will become a brilliant professional in any software-related field."

— **Ezequiel Gutesman**, *Educator, Escuela Técnica ORT*, taught Axel Elián at Escuela Técnica ORT

"Axel, durante su escolaridad en la Escuela ORT, demostró una capacidad especial para resolver problemas de gran dificultad. Es un investigador perseverante y cuando se plantea un proyecto, le dedica lo necesario hasta lograrlo."

— **Adrián Escandarani**, *Director Académico de Informática, Escuela Técnica ORT (Argentina)*, taught Axel Elián at Escuela Técnica ORT

[Contact Axel Elián on LinkedIn](#)