Curriculum Vitae – Budişteanu Ionuț Alexandru

First Name: Ionuț Alexandru
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Nationality: Romanian
Date of birth: 1st December 1993
Occupational field: freshman college student
Education:

2014-2016 University of Bucharest, Faculty of Mathematics and Informatics
2011-2013 High school Grup Scolar Oltchim, Râminicu Vâlcea
2005-2011 Secondary and High School Colegiul Național "Mircea cel Bătrân" Râminicu Vâlcea

Honorary Citizen of Ramnicu Valcea since 2013
Ambassador of the Romanian Tourism in the world since 2014 – Romanian Government

International awards:

*Grand award Gordon E. Moore **$75,000** at Intel International Science and Engineering Fair 2013- **Phoenix, USA**
*Accepted to the Romanian funding program "Young Research Scholarship" **–15,000 Euros**, EUFISCDI
*Institute of Electrical and Electronics Engineers (IEEE) **$10,000** Foundation President's Scholarship - ***Pittsburgh, USA***
*1st Place at Intel Cup Embedded System Design Contest 2014, **Shanghai, China**
***Grand award at *International Sustainable World(Engineering, Environment) Project Olympiad,* - **Houston, USA**
*Outstanding award from **Yale University - *Yale Science & Engineering Association, USA***
*1st Place from Association for Computing Machinery(ACM) 2010 and 2013, ***San Francisco, USA***
*Award from **European Organization for Nuclear Research –** invited to attend **CERN**, Intel ISEF**, Phoenix, USA**
*Grand award at International Environment and Sustainability Olympiad, ***Utrecht, Netherlands***
*1st place from Institute of Electrical and Electronics Engineers(IEEE) at Intel ISEF - Computer Society, ***Pittsburgh, USA***
*Silver medal at la International Sustainable World(Engineering,Environment) Project Olympiad, ***Texas, USA***
*Outstanding award from China Association for Science and Technology at Intel ISEF, ***Pittsburgh, USA***
*Grand award at International Environment Project Olympiad, ***Baku, Azerbaijan***
*3rd and 4th place at Taiwan International Science Fair 2012 respectively 2013**– Taipei, Taiwan***
*Statement of Accomplishment for Introduction to Artificial Intelligence in top 15%, partnership with ***Stanford University***
*2nd place at *International Intel ECO-Ukraine*, ***Kiev, Ukraine***
*Certificate of Accomplishment - CS373 Programming a Robotic Car, Prof. Sebastian Thrun, ***Stanford, Udacity***
*2 times 4thplace Grand Awards at Intel ISEF 2011, 2013 – Computer Science - ***Los Angeles,*** *respectively* ***San Jose, USA***
***Grand award and 1st place in the category of computer science at Intel ISEF 2013 **Phoenix, USA**
*Award of the 2010 Google Technology Trailblazer Award – honorary certificate, ***Zurich, Switzerland***
*1st place at International ICT Olympiad***, Ankara, Turkey***
*Grand award, "super oro" at Proyecto Multimedia***, Guadalajara, Mexico***
*Award at Expo Sciences International - global youth science fair - ***Bratislava Slovakia***

Academic communities:

Association for computing machinery(ACM) – student member since 9th grade
Dan Voiculescu Foundation – for Romanian's development – member and scholar since 9th grade
Institute of Electrical and Electronics Engineers(IEEE) – student member since 11th grade

Others

*I was nominated by **TIME magazine** as one of the **world's most influential teens** of 2013
http://time100.time.com/2013/11/12/the-16-most-influential-teens-of-2013/slide/ionut-budisteanu/
*I was nominated as a 30 under 30 by **Forbes Romania** when I was 16 years old.
*Working on a startup named "VisionBot Pick and Place machine" that will get funded through Kickstarter
www.visionbot.net
*Over 130 national awards in the fields of Computer Science, Programing, Inventions and Electronics.
*Personal website www.budisteanu.net

Conferences and events:

*Speaker at high-level conference "The Future of Europe is Science" held by **European Commission** president, **José Manuel Barroso**, Lisbon, Portugal
*Invited to be a speaker and an inventor fellowship at **WIRED 2014**; London, UK
*Invited to attend **STREAM 2014**, Greece
*Invited to attend Harvard World Model United Nations, Seoul, South Korea, March 2015
*Speaker at **Intel Maker Fair** 2013, September; Rome, Italy
*Private meeting with the **European Commission President, José Manuel Barroso** and Erno Rubik, inventor of the Rubik's cube; Bruxelles, Belgium
*Speaker at InGenious 2013 – "Shaping the future of maths and science education" held by **European Schoolnet**, November, Bruxelles, Belgium

Scientific publications in different Scientific journals.

1. **LearnGraphs**, *Budişteanu Ionuţ Alexandru, prof. Mlisan Mirela,* pages 312-319 in the work volume of the "National Conference on Virtual Learning" (CNIV 2009, www.cniv.ro), ISSN code: 1842-4708, article link http://www.icvl.eu/2009/disc/cniv/documente/pdf/sectiuneaD/sectiuneaD_lucrarea04.pdf
2. **Thief recognition** *Budişteanu Ionuţ Alexandru,* pages 453-467 in the work volume of the "Inernational Symposium - Universe Sciences" 2010 (Simpozionul International "Universul Stintelor" 2010). ISBN code: 978-6-0657665-9-4
3. **NeurosLab** *Budişteanu Ionuţ Alexandru,* pages 468-482 in the work volume of the "Inernational Symposium - Universe Sciences" 2010 (Simpozionul International "Universul Stintelor" 2010). ISBN code: 978-6-0657665-9-4
4. **Logicus – Soft Educational 2.0** *Budişteanu Ionuţ Alexandru, prof. Mlisan Mirela,* pages 203-210 in the work volume of the "National Conference on Virtual Learning" (CNIV 2010, www.cniv.ro) and in the work volume of the "International Conference on Virtual Learning" (ICVL 2010, www.icvl.eu), ISSN code 1842-4708 , article link http://www.icvl.eu/2010/disc/cniv/documente/pdf/sectiuneaC/sectiuneaC_lucrarea07.pdf
5. **NeurosLab - software pentru simulare si invatare** *Budişteanu Ionuţ Alexandru, prof. Mlisan Mirela,* pages 320-327 in the work volume of the "National Conference on Virtual Learning" (CNIV 2010, www.cniv.ro) and in the work volume of the "International Conference on Virtual Learning" (ICVL 2010, www.icvl.eu), ISSN code 1842-4708, article link http://www.icvl.eu/2010/disc/cniv/documente/pdf/sectiuneaD/sectiuneaD_lucrarea06.pdf
6. **"Clase de funcţii - Teste de analiză matematică pe calculator"** – a collection of math problems *prof. Irinel Dafincescu, Budisteanu Ionut Alexandru – co author*, ISBN code 978-973-0-09899-0
7. **AILab – scripting language for Artificial Intelligence** *Budişteanu Ionuţ Alexandru,* pages 327-332 in the work volume of the "International Symposium - Universe Sciences 2011" (Simpozionul International "Universul Stintelor" 2011). ISBN code: 606-13-0655-5
8. **ElectroTools – Educational Software 2.0 with Artificial Intelligence** *Budişteanu Ionuţ Alexandru,* pages 333-339 in the work volume of the "Inernational Symposium - Universe Sciences" 2011 (Simpozionul International "Universul Stintelor" 2011). ISBN code: 606-13-0655-5
9. **AILab – scripting language for Artificial Intelligence** *Budişteanu Ionuţ Alexandru, prof. Mlisan Mirela,* pages 251-257 in the work volume of the "9th National Conference on Virtual Learning" (9th

CNIV, 2011, www.cniv.ro) and in the work volume of the "International Conference on Virtual Learning" (ICVL 2011, www.icvl.eu), ISSN code 1842-4708, article link http://www.icvl.eu/2011/disc/cniv/documente/pdf/sectiuneaD/sectiuneaD_lucrarea06.pdf

10. **ElectroTools – Software Educațional 2.0** *Budişteanu Ionuț Alexandru, prof. Mlisan Mirela,* pages 244-250 in the work volume of the "9th National Conference on Virtual Learning" (9th CNIV 2011, www.cniv.ro) and in the work volume of the "International Conference on Virtual Learning" (ICVL 2011, www.icvl.eu), ISSN code 1842-4708, article link http://www.icvl.eu/2011/disc/cniv/documente/pdf/sectiuneaD/sectiuneaD_lucrarea05.pdf

Other publications:

Association for computing machinery Award 2010 Program
Intel International Science and Engineering Fair 2010, 2011, 2012 Program

Some of the software products/projects

1. **Self-driving car –**I am working at an autonomous car project, a car without a driver which will be able to drive on urban streets. It processes data from a 3D radar(called LIDAR), 4x webcam, and it is able to calculate how it must turn the wheels to drive correctly on the highway, what is the proper velocity to avoid accidents. I believe it will be done in 3-4 months time. You can see how my autonomous car software works, in this video on YouTube: http://www.youtube.com/watch?v=iJL97K81Ob0. Because the computation complexity is large it uses parallel and distributed programming, on many cores and many computers.

2. **Human Computer Interface – Using Artificial Intelligence to help blind people to see with their tongue**. The goal of the work is to create a low-cost device to support blind people that have previously been able to see and have in memory objects form and environment representation so that they can have a spatial representation. There are 287 million blind people in the world. The project is trying to use tongue as a primary transducer for sight, not eyes. Consequently, I created a multi-functional software and an adjustable hardware device. The device allows the processing and adjusting of images taken from a webcam in real time using Artificial Intelligence in order to send them to a sensor matrix that will be placed on an individual's tongue. On the sensor matrix, electricity, directly proportional with the image will be generated. In time, the brain of the blind person will succeed in decoding the information placed on his/ her tongue.

3. **Automated system using Artificial Intelligence to recognize traffic jams or other natural disasters like hurricanes, arsons, oil spill, floods, etc…** The purpose of this project is to create software that helps emergency offices to recognize natural disasters automatically from satellite maps. The idea is the software to recognize natural disasters in real time, before somebody calls and alarms the authorities. Practically, it will save the necessary time that somebody needs to call and alarm. For this purpose, I created and put to test new multi-functional software, demonstrating that the software would save up to 20-30 minutes before somebody would alert the emergency office. Besides solving problems faster, the software is also effective in protecting the environment as it helps forests, firefighters, policemen, people's goods, people's houses and so on.

4. **Brain Computer interface using electroencephalography** – The idea was to create an electroencephalograph which can read the neuronal electric signals within 16 different channels. It amplifies the signal, sending it via frequency modulation. The after the acquisition of the data the software process it using Artificial Intelligence to recognize some patterns. The purpose of the project was to help people with loco motor disabilities to control a computer or other gadgets

5. **X-THEFT** It is a software useful for banks surveillance, which allows to recognize the burglars wearing black criminal masks. The software is also able to recognize the spectral noise of a flex in case burglars would try to steal the bank's ATM

6. **Control Education**– a distributed software which allows e-learning from distance. It is very useful for teachers to use it in a laboratory. Teachers have full access to the student's computers.

7. **AILab – scripting language for Artificial Intelligence** is a programming language (scripting) which allows to create minimal applications oriented for Artificial Intelligence. The software is oriented for templates, and the programmer can override methods for a feature development. Software can generate a Dynamic Link Library which contains the source code in language and can be imported in any programming language under Windows Platform. Software wants to be a tool for programmers, researchers and software companies like MATLAB. A programmer can write something in AILab and he can import the source(which is written in AILab) in any programming language(Environments) as a DLL for a feature development.
8. **NeurosLab Rapid Application development for Artificial Intelligence** – The software allows the developers to create simulate, learn and export artificial neural network Multi-Layer-Perceptron, Kohonen and Carpenter in others applications or other Integrated Development Environments. The user can train the neural network by "drag and drop" and it is able to create powerful applications. As demonstrations, I created a few examples like: Optical Character Recognition(OCR), Face recognition, Face classification, Speech recognition, Mathematical regression of some functions.

9. **RoNetAsistent RomanianNetAsistent** is a software from Remote Administration Tools which allows assistants to repair "sick" computers from the distance, via internet. It is a very useful software for network administrations or for computer services.

10. **Logicus – Educational software 2.0 using Artificial Intelligence**- It is Educational software that can help students to create logical schemes with drag&drop. Then they can simulate the logical scheme and see the source code(in Pascal, C++, Pseudo code) which is generated automatically for his own logical scheme. The software has some tools with Artificial Intelligence which allow OCR(Optical Character Recognition), Vocal User Interface(the GUI can be spoken by the software) and Speech Recognition(where the student can give vocal commands to the software using a microphone).

11. **dictRO** – Is a narrator which is able to talk in the Romanian language as text. It is a text-to-speech software. First version doesn't have Artificial Neural Networks, but the second version is using a Multi-Layer-Perceptron Artificial Neural Network to synthetize the words . It still misses the accent.

12. **LearnGraphs and Tree** – is an educational software oriented for editing, visualizing graphs and studying some algorithms. The project is created from 4 applications: "LearnGraphs – Directed Graph" "LearnGraphs – Undirected graph ", "LearnGraphs – Binary tree " and "LearnGraphs - Educational"(is a software to evaluate students; it creates random graphs and students must add, remove, change some edges of vertexes)

13. **Romanian PC-Cillin** Is a small antivirus system, which is able to detect malicious codes from executable files(.exe, .com, .bat. odt. .dll). It can detect viruses by knowing their signatures or by their behavior. It has some heuristics scans which study the files behavior in time. I implemented a MLP neural network to detect spam e-mails.

14. **Ce face copilul tau pe net?!!!** (en: What is your child doing on the Internet?!!!) – It is software from the Remote Administration Tools class and is used to have access to a computer from distance or over watch the children's computer. It has a dozen of applications.

15. **Fast HTML Editor** – An application which allows creating simple HTML pages using drag and dropping. It includes Java script pages and is oriented for novice people.

16. **MicroDC** It is a software which allow files sharing between users. It is a skeleton for a torrent client.

17. **NetMinorSupervizor** - It is software from the Remote Administration Tools class .It's used to have access to a computer or supervise the children's computer from distance. Parents can know what their children do when online, from their work.

18. **X-Thief** - Is a software project useful for localization of stolen computers. Computers need to have this software installed and not formatted. After having your computer stolen, you will be able to see the webcam from the stolen computer, can copy files, install proofs, record the microphone, etc... Many other options are available.