

Informatics in Armenian schools and the background for Astroinformatics studies

Aneta Baloyan

Astroinformatics student, Byurakan Astrophysical Observatory (BAO)

**BigSkyEarth Conference – Education in Big Data Era
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I REMEMBER WHEN ONLY A DEEP LEARNING SUPER COMPUTER COULD BEAT ME IN A DATA SCIENCE COMPETITION!



KDNUGGETS.COM

BigSkyEarth Conference – Education in Big Data Era

Overview

- **National system**
- **Extracurricular facilities**
 - TUMO center of innovative technologies
 - Armrobotics – robotics development center
 - Chess Academy
 - DigiTec Expo and Digicamp
- **Contests**
 - Hackathon
 - National Olympiads
 - International Olympiads (IOI)
 - Annual Educational awards of RA President to the best students in the IT sector
 - Annual Armenian Microelectronics Olympiad

National system; mandatory classes of Informatics

6-12 forms

In the high school, the program is made taking into account the streaming-oriented education, which starts from the 9th form.

Humanities

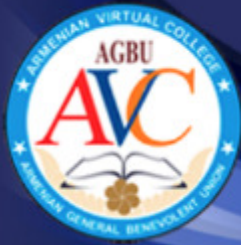
Packages, suitable for administration (MS Office, HTML)

General stream

Aims to develop necessary computer skills to meet the requirements of life and the future business activities through the study of popular applications (MS Office, HTML, algorithms etc.)

Natural sciences

informatics is taught in the form of programming (C++, SQL, HTML etc.).



ARMENIAN VIRTUAL COLLEGE

The Armenian Virtual College (AVC) is an accredited distance learning program that aims to facilitate Armenian studies through new technologies.

Global Presence

Due to its online program and **multiple languages** of instruction, AVC is within reach of every individual wishing to take courses in Armenian Studies who is competent in any of the seven languages. Today AVC is comprised of approximately **4400 students from over 83 countries around the world** – from the **United States to Russia**, from **South Africa to Venezuela**, from **Argentina to tropical Reunion Island** in the Indian Ocean.

Chess in the schools



$$2^{64} \approx 10^{19}$$

Since ancient times **chess** was one of the best examples of big data in our life. Chess was probably the only field where big data were anyhow applicable.

Because “chess language” is universal, it is also the best example for online communication between nations.



TUMO is some kind of after-school environment, where thousands of students are in charge of their own learning, guided by skilled educators and professional mentors.

TUMO is aimed to expand young people's horizons and give them the resources to achieve their full potential and help to acquire the 21st century skills they need to succeed in life.





Armenian Robotics Development Program

The Armenian Robotics Development and Support Program / ArmRobotics / has been implemented by the Union of Information Technologies Enterprises (UITE) since 2008:

The aims of the project are:

- ✓ Development of robotics in Armenia;
- ✓ Promoting the establishment of organizations in the field of robotics;
- ✓ Developing and conducting robotics educational programs in schools and universities
- ✓ Increasing the quality of technological education

In the frame of the ArmRobotics are implementing the followings projects:

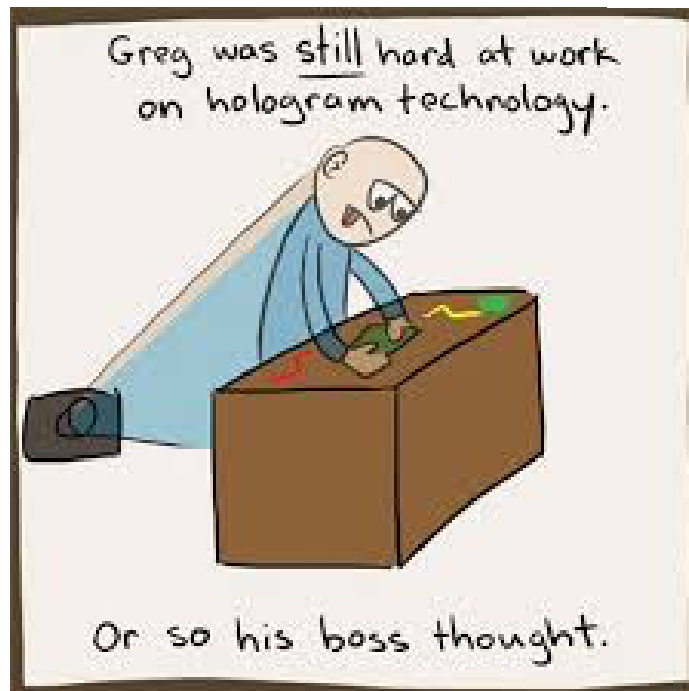
- ✓ ArmRobotics school clubs
- ✓ ArmRobotics Club
- ✓ ArmRobots competitions



DIGICAMP SUMMER CAMP 2016

IT'S NOT ABOUT IDEAS, IT'S ABOUT MAKING IDEAS HAPPEN

July 25- August 4, 2016



- The DigiTech Expo high technologies (High Tech) exhibition is the largest technological exhibition of the region
- Experience
- Opportunity to meet and get acquainted with one another at the same place, especially for startup businesses and SMEs
- Heavily represented by edu companies



Hackathon



Save the Date!
April 22-24, 2016

 **NASA SPACE APPS CHALLENGE**
spaceappschallenge.org



Coming to a city near you...somewhere on Planet Earth!

What is a hackathon?

A hackathon (also known as a hack day, hackfest or codefest) is a design sprint-like event in which computer programmers and others involved in software development, including graphic designers, interface designers, project managers, and others, often including subject-matter-experts, collaborate intensively on software projects.

National Olympiads

- The Ministry of Education and Science holds the National Olympiads among school students. They are held in three stages and **the winners of the final stage are eligible for the IOI.**



International Olympiads on Informatics (IOI)

Armenia started participating in the IOI in 1996 in Hungary. Our students won **1st medal (bronze)** in 2002. Since then they returned from each IOI with at least one medal.

For us especially significant are IOI'2005 when one of our students won **gold medal**, and IOI'2014 when **all four students won medals** (2 silver and 2 bronze). So far Armenia has **1 gold, 4 silver and 20 bronze medals**.

Medalists of an international Olympiad may enter appropriate departments of universities of the country without exams and study for free.

You can find all details in the Statistics page ([International Olympiad in Informatics – Statistics](#)).

University education

A number of universities offer various IT related courses and prepare BSc, MSc, PhD specialists in the following fields:

- **General IT specialists**
- **Network/System administrators**
- **Programmers and Software Engineers**
- **Web developers/designers**
- **Theorists/Computer Scientists**
- **Database administrators**

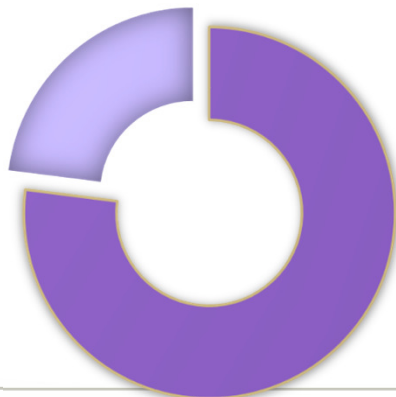


These specialists are successfully hired by both national and international companies located in Armenia, as well as are being invited to many other countries for corresponding jobs.



Educational Programs

To provide Armenia with highly qualified and industry-ready IT specialists, Synopsys heavily invests locally in microelectronics education and is engaged in a number of successful cooperation programs with major universities of Armenia and of the region. These programs are executed through the **Synopsys Armenia Educational Department (SAED)**. SAED is a part of Synopsys Educational Program.



Employments statistics of the SAED graduates

- Synopsys Armenia CJSC
- other IT companies in Armenia or outside

The **Synopsys Armenia Educational Department** supports Armenia **IT development programs** that promote interest in microelectronic design and highlight achievements by the best and brightest **engineering students**.

Currently Synopsys supports the

- **Annual Educational awards of RA President to the best students in the IT sector**
- **Annual Armenian Microelectronics Olympiad.**

The number of students and professional engineers participating in these events is growing each year and is a great way for young engineers to demonstrate their technical skills and creative talents.



Summary

Informatics is being taught in Armenia in both **classical** and **modern** ways:

- **Schools/Universities**
- **Armenian Virtual College (AVC)**
- **National and International Olympiads**
- **Synopsys contests**
- **TUMO center of innovative technologies**
- **ArmRobotics courses and contests**
- **DigiTec Expo and Digicamp**
- **Online Chess school**
- **Space and other Hackathons**



Thank you for your attention

