### Ivane Javakhishvili Tbilisi State University Faculty Exact and Natural Sciences Department of Computer Sciences

## **Bachelor Program**

# Computer Science კომპიუტერული მეცნიერება

Academic degree:
Bachelor of Informatics
ინფორმატიკის გაკალავრი

Tbilisi 2019

Faculty	Faculty Exact and Natural Sciences
Program name	Computer Science
Program volume in credits	240 ECTS
Language of teaching	English
Academic degree awarded	Bachelor of Informatics
Prerequisite to access to the program	The Georgian citizens must pass Unified National Exams. Admission for the program requires minimal competence levels in following Unified National Exams:  • English Language - 69% + 1  • General Aptitude – minimum competence levels is determined by National Assessment and Examinations Center  • Georgian Language - minimum competence levels is determined by National Assessment and Examinations Center  • Mathematics/Physics - minimum competence levels is determined by TSU faculty Exact and Natural Sciences  Foreign applicants should follow the rules and terms defined by the Ministry of Education and Science of Georgia (http://www.mes.gov.ge/content.php?id=1131⟨=geo) according to the order №224/N of the Minister of Education and Science of Georgia (December 29, 2011). The Applicant should prove English language qualification equivalent to CEFR level B2 or higher.
Program Heads	Manana Khachidze Alexandre Gamkrelidze Gia Sirbiladze Koba GelaSvili (Full CV see in Appendix 1)
Program Coordinator	Magda Tsintsadze (Full CV see in Appendix 1)
<b>Tution fee</b>	3 500\$ or 9000 GeL one academic year

## **Program Educational Objectives**

The educational objectives of the undergraduate program "Computer Science" are to issue graduates who will

- 1. be productive, responsible computing science professionals conducting research and/or design developing and maintaining projects in the various areas of Computer Science,
- 2. understand and apply ethical issues and social aspects of computing science in performing their duties as computer science professionals,
- 3. continue the learning of new technologies in the computer science area through self-directed professional development or post-graduate education.

#### **Student Outcomes**

Department of Computer Sciences adopted ABET CAC Student outcomes:

- 1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- 2. Design, implement and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- 3. Communicate effectively in a variety of professional contexts.
- 4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- 5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- 6. Apply computer science theory and software development fundamentals to produce computingbased solutions.

ABET	CAC Student outcomes	Knowledge and understanding	Skills	Autonomy and Responsibility
1.	Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.			
2.	Design, implement and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.			
3.	Communicate effectively in a variety of professional contexts.			
4.	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.			
5.	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.			
6.	Apply computer science theory and software development fundamentals to produce computing-based solutions			

#### Performance Indicators for Student Outcomes

#### **Student Outcomes:**

- 1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
  - PI 1: Analyze a complex computing problem to identify a solution
  - PI 2: Apply principles of computing to identify a solution to a complex computing problem
  - PI 3: Apply principles of relevant disciplines to identify a solution to a complex computing problem
- 2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
  - PII1: Design a software solution to meet a given set of computing requirements
  - PII2: Implement a software solution to meet a given set of computing requirements
  - PII3: Evaluate a computing-based solution to meet a given set of computing requirements
- 3. Communicate effectively in a variety of professional contexts
  - PIII1: Participate effectively in group discussions
  - PIII2: Prepare an effective presentation
  - PIII3: Write an effective project report
- 4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
  - PIV1: Recognize professional responsibilities in computing practice based on legal and ethical principles.
  - PIV2: Make informed judgment in computing practice based on legal and ethical principles
- 5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
  - PV1: Effectively engaged in team as member or leader
  - PV2: Contributes effectively for common task
- 6. Apply computer science theory and software development fundamentals to produce computing-based solutions.
  - PVI1: Apply computer Science theory to produce a solution
  - PVI2: Apply software development fundamentals to produce a solution

#### **Level Of Learning Achievement**

- The learning outcomes are defined in the disciplines envisaged by the Bachelor Program of "Computer Science", which are taught in I-VIII semester. To reach this level means:
- Knowledge of fundamental principles and theories in computer science;
- Ability to use key and fundamental algorithms of computer science in different fields of science and practice;

- Ability to use modern programming languages and tools;
- Ability to operate and use different purpose tools of computer science and information technology.

#### Fields of Employment

Fields of employment of Bachelor of Computer Science are: Governance bodies, educational institutions and organizations of different forms of ownership which use computer technologies for their activities. Bachelor of computer science is predominantly prepared for the development and use of modern methods in the field of economy, management and financial activities. Bachelor of Computer Science can occupy any position that according to the laws of Georgia require higher education. The presented bachelor program takes care of graduates' employment, by means of providing opportunities for continues education, as well as by means of invited lectures participating in the program: most of them are representatives of big employers at Georgian labor market, their tight relationship with students increases the chance of employment of successful students with favorable conditions.

#### The Possibility To Continue Learning

Bachelor of Computer Science will be able to continue their study at master degree programs, such as "Computer Science", "Information systems", "Information technologies", which represent the extension of the undergraduate program. The graduates can continue their education also at master programs in mathematics, engineering, and other Natural Sciences those prerequisite are programming and mathematical knowledge. Major specialty choosing deadline

The third semester is the deadline for choosing major specialty (optimal is the second semester). If students change their mind, they will be able to continue learning at other bachelor programs being carried out at the faculty (mathematics, electronics).

### **Program Delivery Modes**

The Computer Science program is offered as an on-campus day time program. Our academic year is divided into two semesters (fall and spring). Each semester 15 weeks of instruction, with the sixteenth week used for final examinations. The number of contact hours (lecture/practice/workshop/lab) correspond to 5 ECTS and usually meet for three 50-minute periods each week.

The required courses in computer science are offered in every semester, and the most of elective ones are offered at least once a year. Most undergraduate courses are offered during daytime.

There are three basic program delivery modes:

Lectures: verbal, problem-based learning (PBL), demonstration method, induction, deduction, analysis and synthesis.

Seminars, practical and laboratory teaching: verbal, book-based method, laboratory and demonstration methods, practical methods, induction methods, analysis method, and synthesis method, electronic attending (E-learning).

Team Projects: Verbal, PBL, E-learning, cooperative learning, collaborative work.

#### Grading scheme and grade distribution guidance

The student's knowledge is being evaluated according to the following system: "Excellent", "Very good", "Good", "Satisfactory", "Sufficient", "Marginal fail" and "Fail"

A student is evaluated in accordance with the following principle:

Scores	Evaluation	Classification of	GPA of
		Evaluation	Evaluation
91% and more	(A) "Excellent"	Positive	4.0
81 -90%	(B) "Very good"	Positive	3.0
71 -80%	(C) "Good"	Positive	2.0
61 -70%	(D) "Satisfactory"	Positive	1.0
51 -60%	(E) "Sufficient"	Positive	0.5
41 -50%	(FX) "Marginal Fail"	Negative	0
40% and below	(F) "Fail"	Negative	0

The student's final mark in a specific subject is determined by the number of point collected by him/her in the different components (lecture, seminar, practical studies, laboratory exercises) in the course of interim and final (examination) evaluation.

The maximum a viable point in each course is 100. Final exam does not exceed 40 points, interim evaluation represents a combination of test scores, presentation in the class, and team or individual projects. The weight of each components are different for different course and are defined in syllabuses

Grading System of the CS Program is consistent with the TSU standard grading system:

Evaluation	Scores	GPA
A	91-100	4.0
В	81-90	3.0
С	71-80	2.0
D	61-70	1.0
Е	51-60	0.5
F-FX	0-50	0.0

#### Curriculum

#### Full volume of 240 ECTS. from here:

145 ECTS - Computer Science subjects;

20 ECTS - Natural Sciences subjects;

30 ECTS - General education.

Faculty: Faculty of Exact and Natural Sciences

Institute / Department / Chair / Direction: Computer Sciences

Name of the Program: Computer Science

Level of training: a bachelor

Heads of Program: Manana Khachidze Coordinator: Magda Tsintsadze

Date of approval of the Academic Council, Resolution Number:

Date of the enrollment of the academic year (academic year): 2019-2020

	Course	Subje ct status	ECTS	hours	Lecture / Practice / Work / Lab	Prerequisite	I Semester	II Semester	III Semester	IV Semester	V Semester	V I Semester	VII Semester	VIII Semester
CS101	ICT Literacy	R	5	45/80	1/0/0/2	N/R								
CS102	Basics of Programming	R	5	45/80	1/1/0/1	N/R								
CS103	Introduction to Algorithms	R	5	60/65	2/2/0/0	N/R								
MaTh101	Calculus	R	5	60/65	2/2/0/0	N/R								
MaTh102	Algebra for Computer Sciences	R	5	60/65	2/2/0/0	N/R								
SC	Elective Intr Sc.1	SR	5	60/65	2/2/0/0	N/R								
CS104	Object Oriented Programming 1 (C++)	R	5	60/65	1/2/0/1	CS102								
CS105	Data Structures	R	5	60/65	1/0/1/1	CS103, CS102								
CS106	Algorithm Design	R	5	60/65	2/1/0/1	CS103								
GE	Language <sup>1</sup> 1(Georgian)	R	5	60/65	0/4/0/0	N/R								
SC	Natural Sciences	SR	5											

<sup>1</sup> Students how know the Georgian language have to learn any foreign language (no English)

GE	General Education	S	5							,
CS202	CS212 Object Oriented		5			CS104				
	Programming 2 (C# ) or									
	GS222 Oliver Oliver 1				1 /0 /0 /2					
	CS222 Object Oriented Programming 2 (Java) or				1/0/0/2					'
	Programming 2 (Java) or									'
	CS242 Objec Oriented				2/0/0/1					'
	Programming 2 (C++)				2/0/0/1					'
										'
					1/0/0/2					'
CS203	Computer Architecture and Organization	R	5	45/80	1/0/1/1	CS104				
										L'
MaTh201	Discrete Mathematics	R	5	60/65	1/2/1/0	MaTh101				'
			<u> </u>			MaTh102				<u> </u>
SC	Natural Sciences	SR	5	50.15	0.1410.10	· .				<u> </u>
GE	Language 2(Georgian)	R	5	60/65	0/4/0/0	Language 1				'
GE	General Education	S	5			(Gerogian)				<u> </u>
GE	General Education	3	3							
CS204	Data Base	R	5	60/65	1/0/1/2	CS104,				
CS205	Data Analysis and Statistics	R	5	60/65	1/0/2/1	MaTh201				$\vdash \vdash$
CB203	Data Finalysis and Statistics			00/03	1/0/2/1	111111201				'
CS206	Mathematical Programing	R	5	45/80	1/2/0/0	MaTh201				
										'
MaTh202	Calculus for Computer Science	R	5	45/80	1/2/0/0	MaTh102				
SC	Natural Sciences	SR	5							
GE	General Education	S	5							
CS301	Operations Research	R	5	45/80	1/1/0/1	CS206				'
										L
CS302	Operating systems	R	5	45/80	1/0/1/1	CS104				
CS303	Madalina and Cinculation	D	5	60/65	1/0/2/1	CS205				<u> </u>
CS303	Modeling and Simulation	R	3	00/03	1/0/2/1	CS205				'
CS310	Algorithms and Complexity	R	5	45/80	2/1/0/0	CS106				
25510	7 Igoriums and Complexity	*		75/00	2/1/0/0	25100				
CS	CS elective	SR	5	1						
		~	1 -		1	1	1		1	1 '

GE	General Education	S	5											
CS304	Web Programming	R	5	60/65	2/0/0/2	CS104								
CS305	Network Technologies and Communications	R	5	45/80	1/00/2	CS302								
CS 512 or CS 505	Formal Language and Automata or Functional Programing	SR	5	30/95	1/2/0/0	CS104, CS106								
				45/80	1/0/1/1	CS104								
CS	CS elective	SR	5											
CS	CS elective	SR	5											
GE	General Education	S	5											
CS401	Software Engineering	R	5	30/95	1/0/1/0	CS202								
CS402	Project Preparation	R	5	30/95	1/0/1/0	165 ECTS								
CS 512 or CS 505	Formal Language and Automata or Functional Programing	SR	5	30/95	1/2/0/0	CS104, CS106								
				45/80	1/1/0/1	CS104								
CSEL	CS elective	SR	5											
GE	General Education	S	5											
SC	Natural Sciences	SR	5											
CS403	Intelligent Systems	R	5	45/80	1/0/1/1	CS201, CS104								
CS404	Computer law and Ethics	R	5	30/95	1/0/1/0	-								
CS405	Team Projects	R	5	30/95	0/0/2/0	CS401, CS402								
CSEL	CS elective	SR	5			,								
SC	Natural Sciences	SR	5											
GE	General Education	S	5											
							30	30	30	30	30	30	30	30

			El	ective Co	urces									
	Course	Subje ct status	ECTS	hours	Lecture / Practice / Work / Lab	Prerequisite	I Semester	II Semester	III Semester	IV Semester	V Semester	V I Semester	VII Semester	VIII Semester
Natural S	Sciences Courses													
Ph101	Introductory Physics	SR	5	60/65	2/2/0/0	N/R								
Che101	Introduction to Chemistry	SR	5	45/80	2/0/1/0	N/R								
Bio101	Introduction to Biology	SR	5	60/65	2/0/2/0	N/R								
Geo101	Introduction to Geography	SR	5	60/65	2/2/0/0	N/R								
Geol101	Introduction to Geology	SR	5	60/65	2/2/0/0	N/R								
Bio501	Genetics and Molecular Biology	SR	5	60/65	2/0/0/2	N/R								
Bio502	Human and Animal Physiology	SR	5	60/65	2/0/0/2	Bio101								
Bio503	Food and Health	SR	5	60/65	2/1/1/0	Bio101								
Geo501	Biogeography	SR	5	45/80	1/0/2/0	Geo101								
Geo502	Hydrology	SR	5	45/80	1/2/0/0	Geo101								
Ph501	Mechanics	SR	7	120/55	3/2/0/3	Ph101								
Ph502	Electromagnetism	SR	7	120/55	3/2/0/3	Ph501								
General I	Education	T 5	Ι ~	60/67	0/4/0/0	N/R								
	Georgian Language for Foreigners 1	R	5	60/65										
GE102	Georgian Language for Foreigners 2	R	5	60/65	0/4/0/0	GE101								
GE501	Georgian Language for Foreigners 3	S	5	60/65	0/4/0/0	GE102								
GE502	Foundations of British Studies	S	5	30/95	1/0/1/0	N/R								
GE503	Georgian Mythology	S	5	45/80	2/0/1/0	N/R								
GE504	Practicum in Sociolinguistics	S	5	45/80	1/0/2/0	N/R								
GE506	Public Speaking	S	5	45/80	1/0/2/0	N/R								
GE507	Introduction to Psychology	S	5	60/65	2/0/2/0	N/R								
GE508	Principles of Macroeconomics	S	5	45/80	1/0/2/0	N/R								
GE509	Principles of Microeconomics	S	5	45/80	1/0/2/0	N/R								

Comput	er Science Elective courses									
CS501	Algorithmic Information Theory	SR	5	30/95	1/1/0/0	CS102, CS105, CS106				
CS502	Algorithms for Computational Topology	SR	5	30/95	1/1/0/0	CS102, CS105, CS106				
CS503	Introduction to Complexity Theory	SR	5	30/95	1/1/0/0	CS102, CS105, CS106				
CS506	ADO.NET technology - data access from NET application	SR	5	30/95	1/0/0/1	CS212, CS204				
CS508	Advanced course of Algorithms	SR	5	45/80	1/0/0/2	CS104 (71 points or more), CS105, CS106				
CS510	Programming with Java (Advanced Course)	SR	5	45/80	2/0/0/1	CS204, CS222 (minimal score of 60 poins)				
CS511	Information Management	SR	5	45/80	2/0/1/0	CS101				
CS513	Genetic Algorithms	SR	5	45/80	1/0/1/1	CS102, CS106				
CS514	Neural Networks	SR	5	45/80	1/0/1/1	CS102, CS106				
CS515	Behavioral models of discrete systems	SR	5	45/80	1/2/0/0	CS205				
CS516	The Technologies of the Information Security	SR	5	45/80	1/1/1/0	CS102, CS103				
CS517	Cryptographic Algorithms	SR	5	45/80	1/1/1/0	MaTh202				
CS518	Information Theory and Coding	SR	5	45/80	1/1/1/0	MaTh202				
CS 519	Information Models and Systems	SR	5	45/80	1/0/1/1	CS105				
CS520	Network Technologies and Communications 2	SR	5	45/80	1/0/0/2	CS305				
CS521	Operating System Linux for Servers	SR	5	45/80	1/0/0/2	CS302				
CS536	Introduction To Scientific Modeling	SR	5	45/80	1/0/0/2	CS302				
CS538	Algorithms for Numerical Analysis		5	45/80	1/1/0/1	CS302				

# CS Program Course Mapping to Program SLOs.

CS Program		PI 1			PI 2			PI 3		P	[ <b>4</b>	Pl	[ 5	PI	6
Courses	P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P5.1	P5.2	P6.1	P6.2

CS 102 Basics of Programming	CS 101 ICT Literacy								L	L	L				
Programming	CS 102 Basics of	Т	Т			Т					-			т	
CS 103 Introduction to Algorithms		L	L			L								L	
CS 104 Objects	CS 103-Introduction	L	L				L	L					L		L
Oriented Programming 1 (C +++)         L         M <td< td=""><td>to Algorithms</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	to Algorithms														
Programming 1 (C		M			M	L								L	L
H															
CS 105 Data   Structures   CS 106 Algorithm   CS 106 Algorithm   Design   CS 201- Algorithms   M															
CS 106 Algorithm Design	CS 105 Data	L		L	L	L		M							
Design  CS 201- Algorithms and Complexity  M L M M M M M M M M M M M M M M M M M		_													
CS 201- Algorithms and Complexity  M L M M M M M M M M M M M M M M M M M		L			M			M	M			M			
and Complexity  CS 202(2012, 222, 222, 232) Objects Oriented Programming 2 (Java, C#, VBA)  CS 203-Computer Architecture and Organization  M M M M M M M M M M M M M M M M M M M	Design														
CS 202(2012, 222, 232) Objects Oriented Programming 2 (Java, C#, VBA)  CS 203-Computer Architecture and Organization  CS 204 Data Base  H  M  M  M  M  M  M  M  M  M  M  M  M		M	L					M	M				M		M
232) Objects Oriented Programming 2 (Java, C#, VBA)  CS 203-Computer Architecture and Organization  M M M M M M M M M M H  CS 204 Data Base H M M M M M M M M M M M M M M M M M M	and Complexity														
Programming 2 (Java, C#, VBA)  CS 203-Computer Architecture and Organization  M M M M M M M M M M M M M M M M M M M		Н	Н		M	M	Н							Н	M
C#, VBA)  CS 203-Computer Architecture and Organization  M M M M M M M M M M M M M M M M M M M															
CS 203-Computer Architecture and Organization  M M M M M M M M M M M M M M M M M M															
Architecture and Organization  CS 204 Data Base  H  M  M  M  M  M  M  M  M  M  M  M  M	CS 203-Computer	M			M	M	M	M		M					
CS 204 Data Base	Architecture and														
CS 205 Data Analysis and Statistics  M M M M M  M CS206- Mathematical H M H	Organization														
and Statistics M H M H M M	CS 204 Data Base	Н			M	H	M			M		Н			
and Statistics	GG 205 D							3.5							7.5
CS206- Mathematical H M H M H		Н			M	M	M	M	M						M
		H			M	Н								M	
Programming Progra	Programming														

CS 301 Operations Research	H			Н	Н									Н	
CS 302 Operating systems	Н		M	Н		Н		Н				H			
CS 303 Modeling and Simulation	M	Н		Н	Н	Н	Н	Н				H			Н
CS 304 Web Technology		Н		H	Н	M								Н	Н
CS 305 Network Technologies and Communications	Н	M		M	Н	M	L		Н					Н	Н
CS 401 Software Engineering	Н			Н	Н	Н	Н							Н	Н
CS 402 Project Preparation			Н				H	Н		Н	H	Н	Н		
CS 403 Intelligent Systems	Н			Н	Н	Н									
CS 404 Computer law and Ethics										Н	Н				
CS 405 Team Projects		Н	Н	Н	Н		Н	Н	Н		Н	Н	Н	Н	Н

H- High

M - Middle

L-Low

### Necessary auxiliary conditions /resources for learning

The Department of Computer Science has nine open labs for students (rooms 407-415 and 417-419 in XI building) and one computer Lab (room 409) with Sisco research equipment. Open labs can be used by all university students including computer science students. There are 250 pieces of hardware including computers, projectors and printers in the department inventory list. Following is a list of the hardware and software in each open lab:

**Room 407** 

Windows – 16 machines

**Room 408** 

Windows – 16 machines

**Room 409** 

Windows – 16 machines

**Room 410** 

Windows - 16 machines

**Room 411** 

Windows – 24 machines

Room 412-413

Windows – 31 machines

Room 414-415

Windows – 31 machines

**Room 417** 

Windows – 16 machines

**Room 418** 

Windows – 16 machines

**Room 419** 

Windows – 16 machines

Overall 198 computers.

#### The following programs are running on all computers:

- Operating systems Windows7 or Windows 10
- Operating system Linux;
- Windows Server 2016;
- Microsoft Office 2013, Office 2016;
- Visual Studio 2015, 2017;
- SQL Server 2012;
- Adobe Photoshop CS5;
- Adobe Dreamviewer;
- WAMP;
- Sublime;
- MATLAB;
- MATLAB & Simulink;
- WMware Workstation;
- Wolfram Mathematic 11;
- Microsoft Azure;

- Emu8086;
- Little Man Computer;
- CPU emulator;
- GNS3;
- Cisco Packet Tracer;
- Virtual Box 5.0:
- Sublime Text;
- Vamp Server;
- SPSS 20;
- Wire shark;
- Code::Blocks
- Shadow Defender;
- WinRAR;
- Adobe Reader.

## Program Heads CV

Manana Khachidze							
Education							
	Master's degree (equal) in Mathematical software of ACS, Tiblisi State University, Faculty of Cybernetic and Applied Mathematic, 1982-1987.  Doctor (PhD - Technological Science), Academic doctor (equal), Candidate of Technical Sciences. Georgian Technological University, 1998.						
	ademic experience						
	I.Javakhishvili Tbilisi State University; Faculty of Exact and Natural Sciences, Computer Sciences Department, Professor, head of department, 2006 – up now, full time; I.Javakhishvili Tbilisi State University; Faculty of Applied Mathematics and Computer Science, Senior ticher, 1999-2006, part time.						
No	n-academic experience						
	A.Eliashvili Institute of Control Systems, Department of Machine Intelligence Problems; Senior scientist, 1988 -2010, full time (1988-20060, part time (2006-2010);						
	Rescue-Guide Service of Georgia Tourism Department, Information Department, Head, 2000 – 2003, part time;						
	Georgian Academy of Sciences, journal "Metsniereba da teqnika" (Science and Technology), IT Department, Head, 1993-1998, part time.						
Cu	rrent membership in professional organizations						
	Member of the TSU Senate (since 2010);						
	Member of Georgian Academy of Natural Sciences;						
	Adviser of Georgian Academy of Engineering;						
	Board Member of Georgian Speleologists Union; Fellow of LEAD International (International Program - Leadership for Environment and						
	Development) (1996-1998), www.lead.org.						
	ACM (Association for Computing Machinery) Professional Membership						
Sei	vice activities						
	Accreditation and authorization expert of National Center for Educational Quality Enhancement Georgia (since 2010);						
	Supervisor for master degree's students;						
	Member of master degree certification commission;						
	Reviewer of master thesis.						

Bri	Briefly list the most important publications and presentations from the past five years					
	M. Khachidze, M.Tsintsadze, M. Archuadze, G. Besiashvili. Complex system state					
	generalized presentation based on concepts. Application of Information and					
	Communication Technologies (AICT), 2014 IEEE 8th International Conference on, At					
	Astana. DOI: 10.1109/ICAICT.2014.7035999					
	M.khachidze, G.Besiashvili. Pollution and Pollutin Source Definition on the Basis of Data					
	Conceptual Analysis. International Conference "TBILISI-SPRING-2014" - Nuclear					
	Radiation Nanosensors and Nanosensory Systems.					
	M.khachidze, G.Besiashvili, M. Archuadze, M.Cincadze. Sensor data Full Application					
	Circle Planning International Conference "TBILISI-SPRING-2014-Nuclear Radiation					
	Nanosensors and Nanosensory Systems. 2014					
	T.Tatrishvili, N.Jalagonia, K. Gelashvili, M.Khachidze, E.Markarashvili, J.Aneli,					
	O.Mukbaniani. Quantum Chemical calculations of Hydrosilytation Reaction of					
	Oligomethylhydrosiloxane to Allyl Cyanide and Polymer Electrolyte Membranes on their					
	Basis. Oxidation Communications 38, No1, 2015. pp. 13-24.					
	M.khachidze, M.Tsintsadze, M. Archuadze, G.Besiashvili. Concept Pattern Based Text					
	Classification System Development for Georgian Text Based Information Retrieval. Baltic					
	J. Modern Computing, Vol. 3 (2015), No. 4, pp. 307–317.					
	P.J. Kervalishvili, M. G. Khachidze, A. Chirakadze. Novel Achievements in Information					
	Science and Technology as basis of Secure Society Sustainable Development.					
	Series:NATO Science for Peace and Security Series - E: Human and Societal Dynamics.					
	Ebook: Volume 120: Engaging the Public to Fight the Consequences of Terrorism and					
	Disasters. 2015. pp. 27-39.					
	P.J. Kervalishvili, M.G. Khachidze. Quantum Approach to Sensory Information					
	Processing for Modeling of Disasters. Book - NATO Science for Peace and Security,					
	Series B: Physics and Biophysics. Nuclear Radiation Nanosensors and Nanosensory					
	Systems. 2016, pp.1-8.					
	M.khachidze, M.Tsintsadze, M. Archuadze. Natural Language Processing (NLP) Based					
	Instrument for Classification of Free Text Medical Records. BioMed Research					
	International. Volume 2016 (2016), Article ID 8313454, 10 pages.					
Dan	http://dx.doi.org/10.1155/2016/8313454					
Br	iefly list the most recent professional development activities					
	2016 - I.Javakhishvili Tbilisi State University. Document Classification Engine Model for					
	Georgian Information. Supervisor.					
	2015.03 – 2015.12 - I.Javakhishvili Tbilisi State University. Georgian Documents					
	Classification Methods. Supervisor					
	2009 –2010 - NATO "Science for Peace and Security", HSD.EAP.CLG. 983694.					
	"Information, Synergy and Security". Team Leader.					
	2009-2011. GNSF, # 1-7/73; Creation of Modeling Software of Molecular Systems –					
	Materials of Molecular Nanotechnology and Spin electronic. Coordinator.					
	2005-2006, INTAS Nr 04-77-7067. Medical Image processing – Theoretical Bases and					
_	Technological Aspects. Team Leader.					
	Participation in Erasmus+ Program					
	"Mobility For Double Diploma" - Erasmus+ - International Credit Mobility. Polytechnic					
	Institute of Bragança (IPB), Portugal, 28 February – 12 March 2016.					

International Week for Academic and Administrative Staff. Bialystok University of
Technology, 15-19 May 2017, Białystok, Poland.
Academic and Administrative Staff mobility. 14-16 June, 2017. INSA Rennes, member of
the INSA Group, France

Education  Candidate of Phys-math Sciences (Math.Cybernetics), TSU, Georgia, 2006 Post-Doctoral research, ATEI of Thessaloniki, Computer Science, Greece, 2008-2009  Academic experience  □ 2017-current: San Diego State University Georgia, Invited Professor (part time) □ 2009- to present : Associate Professor at Iv. Javakhishvili Tbilisi State University/ Department of Exact and Natural Sciences (Full Time) □ 2015: Invited Lecturer for summer course teaching - The University of A Coruña, Spain □ 2014: Invited Lecturer for short course teaching (graduate level) Department of Computer Sciences (Infogeolog), Lodz University, Poland □ 2011-2012: Faculty-associate at Computer Science Graduate School of SUNY Stony						
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□ 2014: Invited Lecturer for short course teaching (graduate level) Department of Computer Sciences (Infogeolog), Lodz University, Poland						
Sciences (Infogeolog), Lodz University, Poland						
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Brook, NY, USA						
2010-2011 - New Gelati American Academy - Invited lecturer for Calculus and						
Elementary Mathematics; Part Time						
□ 2006-2009: Assistant Professor at Iv. Javakhishvili Tbilisi State University/ Department of						
Exact and Natural Sciences						
□ 2005, 2006(June-August) – Dortmund University/ Faculty of Informatics						
-Guest Scientist (PhD fellow)						
Non-academic experience						
The Parliament of Georgia Senior Specialist at the Department of Informatics, 2002-2009,						
Full Time						
Certifications or professional registrations						
Certifications or professional registrations						
Certifications or professional registrations						
☐ Certificate in Web Designing (Shriram Institute of Business and Information						
☐ Certificate in Web Designing (Shriram Institute of Business and Information Technologies, New Delhi, India)						
☐ Certificate in Web Designing (Shriram Institute of Business and Information						
<ul> <li>□ Certificate in Web Designing (Shriram Institute of Business and Information Technologies, New Delhi, India)</li> <li>□ Certificate -English language for Academic Purposes – CELOP, Boston University, USA</li> </ul>						
☐ Certificate in Web Designing (Shriram Institute of Business and Information Technologies, New Delhi, India)						
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<ul> <li>□ Certificate in Web Designing (Shriram Institute of Business and Information Technologies, New Delhi, India)</li> <li>□ Certificate -English language for Academic Purposes – CELOP, Boston University, USA</li> <li>Current membership in professional organizations</li> <li>Affiliate Member of AMS, Member of ACM and AAAI</li> <li>Honors and awards</li> <li>□ 2005- INTAS Grant for YS</li> <li>□ 2008- President Grant for Young Scientists</li> </ul>						

	2013-2016 - Shota Rustaveli National Foundation Grant for Fundamental Research (Key							
	Researcher 2015-2016 - Shota Rustaveli National Foundation Grant for Summer School (Main Personnel)							
Se	rvice activities							
	2017- current : Abet Accreditation Team Member (Coordinator)							
	2015.03 – 2015.12 - Iv.Javakhishvili Tbilisi State University. Georgian Documents Classification Methods. Coordinator							
	Reviewer - Current Journal of Applied Science and Technology, Asian Journal of							
	research in Computer Science, editorial board member of "The research Journal of							
	Compputer Science and Information Technology"							
	Supervisor for master degree's students;							
	Reviewer of master thesis.							
Rr	iefly list the most important publications and presentations from the past five years							
	M.Tsintsadze - "Shapely Entropy Generalization for Fuzzy Measures Used in Uncertain							
	Information Presentation", CEWIT 2013, SUNY Stony Brook							
	M.Khachidze, M.Tsintsadze, M. Archuadze, G. Besiashvili. Complex system state							
	generalized presentation based on concepts. Application of Information and							
	Communication Technologies (AICT), 2014 IEEE 8th International Conference on, At							
	Astana. DOI: 10.1109/ICAICT.2014.7035999							
	Magda Tsintsadze, Nana Odishelidze - On one contact problem of plane elasticity theory							
	with partially unknown boundary- PAMM Volume 15, Issue 1, October 2015, Pages: 235–236, DOI: 10.1002/pamm.201510108							
	M.Khachidze, M.Tsintsadze, M. Archuadze. Natural Language Processing (NLP) Based							
	Instrument for Classification of Free Text Medical Records. BioMed Research							
	International. Volume 2016 (2016), Article ID 8313454, 10 pages.							
	http://dx.doi.org/10.1155/2016/8313454							
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Br	iefly list the most recent professional development activities							
	2017: Participation in Erasmus+ Program : Academic and Administrative Staff mobility.							
	INSA Rennes, member of the INSA Group, France							
	2015: Invited Lecturer for summer course teaching - The University of A Coruña, Spain							
	2015: Fellow – Volunteer at San Diego State University, USA							
	2014: Invited Lecturer for short course teaching (graduate level) Department of Computer							
_	Sciences (Infogeolog), Lodz University, Poland							
	2011-2012: Faculty-associate at Computer Science Graduate School of SUNY Stony							
	Brook, NY, USA							