

PERSONAL INFORMATION

Stojan Kitanov



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Sex M | Date of birth 19/08/1979 | Nationality Macedonian (Republic of Macedonia)

WORK EXPERIENCE

(07 Nov 2016 – Up to Present)

Teaching and Research Assistant in the field of Computer Architecture and Organization

Mother Teresa University, Faculty of Informatics, Skopje, Republic of Macedonia

- Providing tutorial and lecture classes for different courses: Basics of Programming, Basics of Electrical Engineering, 3D Engineering, Digital Logics
- Performing Research in the Area of Next Generation Mobile and Wireless Networks and Cloud Computing.
- Member in the University committee for Scientific Research

[University \(Higher Education Institution\)](#)

(27 Dec 2010 – 06 Nov 2016)

Teaching and Research Assistant in the field of:

- Telecommunication Engineering (Information Theory and Radio communications (09.10.2016 – 06.11.2016)
- Telecommunication Engineering (27.12.2013 – 08.10.2016)
- Information Technologies and Science (27.12.2010 – 27.12.2013)

**University of Information Science and Technology “St. Paul the Apostle,”
Faculty of Information Systems Visualization Multimedia and Animation,
Ohrid, Republic of Macedonia**

- Providing tutorial and lecture classes for various courses: Digital Signal Processing, Network Architectures, Wireless Technology, Finite State Machines, Compiler Theory, Communication Protocols, Information Theory (Coding), Electricity and Magnetism, Social Networks, Internet Technologies, Information Technologies, Client Server Systems, Entrepreneurship, Commercialization of Technologies and Entrepreneurship, Automated Reasoning and Search, Cloud Computing Technologies, Parallel Data Processing, Programming 3, Data Mining.
- Actively involved in preparation of new study programs, enrollment of prospective students, student transfer between universities, public procurements, etc.
- Performing Research in the Area of Next Generation Mobile and Wireless Networks and Cloud Computing.
- IT Support for the University Network (01.01.2011 – 10.08.2011)

[University \(Higher Education Institution\)](#)

(12 Oct 2005 – 31 Aug 2010)

Systems Support Engineer

MOTOROLA

- **Authorized Motorola Representative for the projects in Macedonia** (Providing technical support to ONE Mobile Telecommunications SC Skopje – part of the Telecom Slovenia Group (formerly known as Cosmofon – part of the Cosmote Group), the 2nd GSM mobile operator in Macedonia.
- Performing Research in the Area of Next Generation Mobile and Wireless Networks and Cloud Computing.
- Providing 1st and 2nd level of technical support in GSM and WiMAX to ONE;
- Database preparation for GSM sites (RXCDR, BSC, BTS), as well as activation, commissioning and integration of the GSM sites into the live network of ONE;
- Database preparation and Software upgrade for BSS Subsystem;
- Identification and Detection of a potential hardware, software and statistical problems of the BSS subsystem, as well as providing a technical solution for these problems;
- Informing the customer about the latest technology features of the legacy and new technologies
- Participation of EDGE deployment into the live network of ONE
- Installation and Integration of WiMAX Access Points and CAPC
- Member in the University committee for Scientific Research

Mobile and Wireless Networks

EDUCATION

(Dec 2011 - Up to present)

Expected Qualification:
Doctor of Science

EQF level 8

Research Area: Technical and Technological Sciences
Research Field: Electrical Engineering and Information Technologies

Ss Cyril and Methodius University, Faculty of Electrical Engineering and Information Technologies, Skopje, Republic of Macedonia

- **Study Programme: Electrical Engineering and Information Technologies**
- **Major Field of Expertise: Telecommunications**
- **Title of PhD Thesis: Quality of Cloud Orchestrated Services in 5G Mobile and Wireless Networks**
- **Current status: PhD Candidate**
- List of principal subjects covered: Ethics of Science and Research, Methodology for Scientific Research (Basic Level), Matlab and its Application in Engineering Analysis, Analysis and Performances of Wireless Networks, Advanced Internet Services, Design of Wireless IP Networks, Multimedia Networks and Services

(Oct 2003 – Jun 2004)

Master of Science in Telecommunication and Information Systems

EQF level 7

University of Essex, Electronics Systems Engineering Department, Colchester, England, United Kingdom of Great Britain and Northern Ireland

- **Study Programme: Electrical Engineering and Information Technologies**
- **Title of MSc Thesis: Inter-working between Wireless Access Networks with Particular Reference to the migration to 4G**
- List of principal subjects covered: Cellular and Wireless Networks, IPv6 and QoS, Networked Audio and Video, Mobile Computing, Access and Metro Networks: Infrastructures and Technologies, Theory of Signals and Systems, Transmission Systems, Network Concepts, Network Engineering

(Oct 1998 – Sep 2003)

Bachelor of Science in Electrical Engineering
Major: Electronics and Telecommunications

EQF level 6

Ss Cyril and Methodius University, Faculty of Electrical Engineering, Skopje, Republic of Macedonia

▪ **Study Programme: Electronics and Telecommunications**

▪ **Title of Diploma Work: 4G Mobile Networks**

▪ List of principal subjects covered: Mathematics 1, 2, 3, and 4, Physics 1 and 2, Basics of Electrical Engineering 1 and 2, National Defence, Programming Language, Electronic Elements, English Language, Theory of Electrical Circuits 1 and 2, Basics of Electrical Measurement, Electronic Materials, Linear Electronics 1 and 2, Basics of Telecommunications 1 and 2, Electromagnetics, Microelectronics, Logic Circuits and Discrete Automatic Device, Information Theory, Electronics Measurements, Electromagnetic Waves, Pulse Electronics, Digital Electronics, Digital Telecommunications, Digital Signal Processing, Switching and Traffic Theory, Microwave Systems, Computer Systems, Telecommunication Networks, Telecommunication Systems, Principles of TV Networks, Electro-acoustics, Multiplex Systems, Computer Networks, Management, Radio-relay Systems, Data Transmission

TRAINING

(Sep 2016)

Maestra Summer School for Mining Big and Complex Data

organized by MAESTRA project 2016 - Learning from Massive, Incompletely annotated, and Structured Data (Grant number ICT-2013-612944) in Ohrid, Republic of Macedonia

(Jun 2014)

International Summer School in Wireless Power Transmission for Space Applications

organized by COST Action IC1301 WiPE (Wireless Power Transmission for Sustainable Electronics) in Aveiro, Portugal

(Dec 2013)

Automata

Coursera online course

(May 2013)

European School of Information Theory (ESIT)

organized by IEEE Information Theory Society in Ohrid, Republic of Macedonia

(Nov 2010 – Dec 2014)

International Telecommunication Union (ITU) Courses

- Next Generation Networks - NGN (2010)
- Next Generation Mobile and Wireless Networks (2011)
- Future Internet (2012)
- Mobile Broadband: LTE / LTE-Advanced, WiMAX and WLAN (2012)
- Broadband and Next Generation Networks (2013)
- 4G Mobile and Future Internet (2013)
- NGN, Future Networks and Cloud Computing
- Wireless Mobile and Broadband Internet (2014)

(Sep 2010 – Jul 2011)

CISCO CCNA Official Courses

- CCNA Exploration: Network Fundamentals (CCNA 1)
- CCNA Exploration: Routing Protocols and Concepts (CCNA 2)
- CCNA Exploration: LAN Switching and Wireless (CCNA 3)
- CCNA Exploration: Accessing the WAN (CCNA 4)

(Feb 2010 – Nov 2010)

JAVA Programming Language Oracle (former Sun Microsystems) Official Courses

- SL-110-SE6: Fundamentals of the Java Programming Language
- SL-275-SE6: Java Programming Language
- CX-310-065: Java Standard Edition 6 Programmer Certified Professional Exam

(Sep 2010 – Jul 2011)

Redback Networks Training Course

- SmartEdge Foundation, add-on PTA, L2TP, DHCP/CLIPS, System Troubleshooting, Field Maintenance and NetOP EMS

(Oct 2005 – Aug 2010)

MOTOROLA Official Training Courses

GSM Courses

- BSS 11 BSS Operational Theory
- BSS 12 BSS Operations and Maintenance
- BSS 07 Advanced BSS Field Support
- SYS 01 GSM Interfaces
- SYS 02 Introduction to BSS Database
- SYS 03 Advanced BSS Database
- BSS 101 PCU Operational Theory
- BSS 102 PCU Installation and Maintenance
- SYS 101 M1 GPRS interfaces and Protocols
- SYS 101 M2 Packet Switched Interfaces and Protocols
- SYS 102 BSS (GPRS) Database
- NET 04 Cell Optimisation Product
- ToolBag2 Advanced BSS Data Collection and Analysis
- NET02 Advanced Network Operations
- OMC03 OMC-R System Administration
- WKS03 GSM Handover Detection and Power Control Workshop 1
- WKS04 GSM Handover Detection and Power Control Workshop 2
- BCOE1 (GSM)2.1 BSS(GSM) Optimization Engineer Level 1 – Version 2.1(GSR8)
- BCOE2A (GSM) 2.1 BSS(GSM) Optimization Engineer Level 2 Intermediate – Version 2.1(GSR8)

WiMAX Courses

- MAX25 An Introduction to WiMAX Release 2.5
- MAX104-CPEi300 CPEi300 Operations and Turn up
- MAX104-CPEi600 CPEi600 Operations and Turn up
- MAX104-CPEi400 CPEi400 Operations and Turn up
- TTS645 Hydra 3.0 Update Training
- MAX300 WiMAX Radio Link: Theory, Parameters and Performance
- GNL300 Seamless Mobility Overview
- Wibb-1 WiMAX End-to-End(E2E)
- MAX101 WiMAX Overview
- MAX102 WiMAX Technical Overview
- GNL500 Overview of WiMAX
- GNL510 Overview of OFDM(e)
- Seamless Mobility Overview
- CP27 Mobile WiMAX Access Network Signalling
- WKS07 WiMAX Deployment Workshop

Quality Courses

- CIC 2004 Six Sigma Foundations
- CIC 2006 Motorola's Approach to Quality
- CIC 2006 Exam Motorola's Approach to Quality Exam
- CIC 3522 Environment Evaluation – VOC
- CIC 3522 Exam Environment Evaluation – VOC Exam
- CIC 3523 Concept Design and Selection
- CIC 3523 Exam Concept Design and Selection Exam
- CMP1197 Ethics Training for Non-Employees
- ITS2633 Privacy Directions: Awareness
- ITS2742 Next Generation of Remote Access
- ITS2766 iProtect101

PERSONAL SKILLS

Mother tongue(s) Macedonian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
TOEFL Certificate and Studied in English					
German	A2	A2	A2	A2	A2
2 nd Degree Certificate					
French	A1	A1	A1	A1	A1
1 st Degree Certificate					
Serbian, Croatian, Bosnian, and Montenegrin	C2	C2	C2	C2	C1
/					
Bulgarian	B2	B2	B2	B2	B1
/					
Slovenian	A1	A1	A1	A1	A1
/					
Albanian	A1	A1	A1	A1	A1
/					

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills

- good communication skills gained through my living and working experience
- communicative and ambitious person, with the ability for team working combining an energetic and dynamical attitude, with the ability to bring the freshest theories and ideas of technology to the workplace

Organisational / managerial skills

- leadership and management (Coordination and administration of people for various tasks and projects projects while working for Motorola such as EDGE Deployment, transport of GSM and WiMAX equipment, GSM and WiMAX deployment etc.)
- Participation in organizing IEEE scientific conferences at the university, as well as organizing other university events

Job-related skills

- good command of quality control processes (while working in Motorola)

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient User	Proficient User	Proficient User	Proficient User	Proficient User

Levels: Basic user - Independent user - Proficient user
[Digital competences - Self-assessment grid](#)

CERTIFICATES

- Oracle Certified Professional, Java SE 6 Programmer
- Motorola Pro-Cert in Wireless Engineering: BSS(GSM) Optimization Engineer Level 2 Intermediate – Version 2.1(GSR8)
- Motorola Yellow Badge Control
- Certificates for attending CISCO CCNA Courses, ITU Academy Courses, Redback Networks, Motorola, Coursera Courses, etc.

Other computer skills:

- good command of office suite (word processor, spread sheet, presentation software)
- good command of photo editing software
- good command of MATLAB
- Starting experience with ArcGIS, NS2, NS3, NCTUNS, OPNET, OMNET

Driving licence B

ADDITIONAL INFORMATION

Publications

Book Chapters

- Stojan Kitanov, and Toni Janevski. **Fog Computing Mechanisms in 5G Mobile Networks.** *Book Chapter in Networks of the Future: Architectures, Technologies and Implementations.* CRC Press, Florida, USA, 2017.
- Stojan Kitanov, and Toni Janevski. **Fog Networking for 5G and IoT.** *Book Chapter in 5G Mobile: From Research and Innovations to Deployment Aspects, Architectures, Technologies and Implementations.* Nova Publishers, Inc., 2017.

Journal Papers

- Stojan Kitanov, Toni Janevski. **Fog Computing Service Orchestration Mechanisms for 5G Networks.** *Journal of Internet Technology (JIT), ISSN 1607-9264, Taiwan, 2018. (IMPACT FACTOR: 0.533).*
- Stojan Kitanov, and Toni Janevski. **Quality Evaluation of Cloud and Fog Orchestrated Services in 5G Network.** *European Journal of Information Science and Technology (EJIST), Vol. 1, No. 1,* published by University of Information Science and Technology "St. Paul the Apostle," Ohrid, Macedonia, 2016.
- Stojan Kitanov, and Toni Janevski. **Fog Computing as a Support for 5G Network.** *Journal of Emerging Research and Solutions in ICT (ERSICT), Vol. 1, No. 2,* published by Faculty of Information and Communication Technologies in Bitola, Macedonia, 2016.
- Ilan Sadeh, Stojan Kitanov, Danco Davcev. **Application of Multiple Description Coding for Adaptive QoS Mechanism for Mobile Cloud Computing.** *International Journal of Cloud Computing and Services Science (IJ-CLOSER), Vol. 2, No. 6,* pp. 391 - 402, December, 2013.
- Stojan Kitanov, Danco Davcev. **Mobile Learning in Mobile Cloud Computing Environment.** *International Transactions on Systems Science and Applications (ITSSA), Volume 8,* pp. 27 – 39, SIWN Press, December 2012.

Conference Papers

- Stojan Kitanov, Toni Janevski. **Energy Efficiency of Fog Computing and Networking Services in 5G Networks.** *Proceedings of the XVII IEEE International Conference on Smart Technologies EUROCON 2017, Ohrid, Macedonia, 2017.*
- Stojan Kitanov, and Toni Janevski. **Quality of Fog Computing Orchestrated Services in 5G Mobile Networks.** *Paper presented at the PhD Seminar at the School of Doctoral Studies at Ss. Cyril and Methodius University, Skopje, Macedonia, 2016.*
- Stojan Kitanov, and Toni Janevski. **State of the Art: Fog Computing for 5G Networks.** *Proceedings of the XXIV International Telecommunication Forum TELFOR 2016, Belgrade, Serbia, 2016.*
- Stojan Kitanov, and Toni Janevski. **Energy Efficiency of 5G Mobile Networks in Hybrid Fog and Cloud Computing Environment.** *Proceedings of the II International Conference Recent Trends and Applications in Computer Science and Information Technology RTA-CSIT 2016, Tirana, Albania, 2016.*
- Stojan Kitanov, Toni Janevski. **5G Networks in the Fog Computing Environment.** *Proceedings of the XII International Conference of Society for Electronics, Telecommunications, Automation and Informatics ETAI 2016, Struga, Macedonia, 2016.*
- Stojan Kitanov, Toni Janevski. **Hybrid Environment Service Orchestration for Fog Computing.** *Proceedings of the 51st International Scientific Conference on Information, Communication and Energy Systems and Technologies ICEST 2016, Ohrid, Macedonia, 2016.*

Publications

- Stojan Kitanov, Edmundo Monteiro, Toni Janevski. **5G and the Fog – Survey of Related Technologies and Research Directions**. *Proceedings of the XVIII Mediterranean IEEE Electrotechnical Conference MELECON 2016, Limassol, Cyprus, 2016*.
- Stojan Kitanov, Toni Janevski. **Mobile Cloud Computing in 5G Networks**. *Proceedings of the XI International Conference of Society for Electronics, Telecommunications, Automation and Informatics ETAI 2015, Ohrid, Macedonia, 2015*.
- Stojan Kitanov, Toni Janevski. **State of the Art: Mobile Cloud Computing**. *Proceedings of the Sixth IEEE International Conference on Computational Intelligence, Communication Systems and Networks*, pp. 153-158, Tetovo, Macedonia, 2014.
- Stojan Kitanov, Toni Janevski. **Evaluation of the Scheduling Algorithms in LTE Networks**. *Paper presented at the PhD Seminar at the School of Doctoral Studies at Ss. Cyril and Methodius University, Skopje, Macedonia, 2013*.
- Stojan Kitanov, Toni Janevski. **Performance Evaluation of Scheduling Strategies for LTE Networks in Downlink Direction**. *Proceedings of the XI International Conference of Society for Electronics, Telecommunications, Automation and Informatics ETAI 2013, Ohrid, Macedonia, 2013*.
- Stojan Kitanov, Toni Janevski. **Modeling and Analyzing LTE Networks with EstiNet Network Simulator and Emulator**, *Proceedings of the XVIII International Scientific Conference on Information, Communication and Energy Systems and Technologies (ICEST), Ohrid, Macedonia, 2013*.
- Stojan Kitanov, Danco Davcev. **Mobile Cloud Computing Environment as a Support for Mobile Learning**. *Proceedings of the International Academy Research and Industry Association (IARIA) - Cloud Computing 2012: The Third International Conference on Cloud Computing, GRIDs and Virtualization*, pp. 99 - 105, Nice, France, 2012.
- Stojan Kitanov, Danco Davcev, Ustijana Rechkoska Shikoska. **Future Internet, Cloud Computing, and Quality of Experience for Distance and Mobile Learning**. *Proceedings of the International Conference on Networking and Future Internet (ICFNI)*, pp. 120 - 125, Istanbul, Turkey, 2012.
- Stojan Kitanov. **Simulator for the LTE Link Level Performance Evaluation**. *Proceedings of the 3rd ICT Innovations 2011 International Conference*, pp. 107 – 117, Skopje, Macedonia, 2011

Conference Poster Presentations

- Stojan Kitanov, Toni Janevski. **Fog Computing for 5G Networks**. *Accepted paper as a poster presentation on 8th ICT -Innovations International Conference, Ohrid, Macedonia, 2016*.
- Ilan Sadeh, Stojan Kitanov, Danco Davcev. **Multiple Description Coding for Adaptive QoS Mechanism for Mobile Cloud Computing**. *Accepted paper as a poster presentation on 5th ICT -Innovations International Conference, Ohrid, Macedonia, 2013*.
- Stojan Kitanov. **Comparison of Dirty Paper Coding and Tomlison-Harashima Precoding for Downlink MU-MIMO Wireless Communication Systems**. *Poster presentation at the European School of Information Theory (ESIT), Ohrid, Macedonia, 2013*.

Projects **Sep 2014 – Nov 2014****COST Action - IC1304–ACROSS (Autonomous Control for a Reliable Internet of Services)
Short Term Scientific Mission (STSM) at University of Coimbra, Portugal
(under the mentorship of professor Edmundo Monteiro)**

Topic: Resource Management in Virtualized 5G Networks and Mobile Cloud Computing

- Working on research issues related with the evolution of current wireless technologies to 5G
- Focusing on fog computing
- Support of 5G networks and resource management in virtualized 5G environments.
- Developing a high level architecture of beyond-5G network in fog computing environment

Sep 2014 – Sep 2015**Multimedia Content and Mobile Cloud (MUMOB)
National Project at the Faculty of Computer Science and Engineering (FINKI),
Skopje, Macedonia (managed by prof. Danco Davcev)**

- Using mobile cloud computing in order to analyze, process and deliver multimedia content to the users.
- Propose a system for processing of multimedia content in the mobile cloud and efficient delivery to the mobile users on their mobile devices.

Sep 2013 – Sep 2014**Adaptive multimedia delivery in mobile cloud (ADAMO)
National Project at the Faculty of Computer Science and Engineering (FINKI),
Skopje, Macedonia (managed by prof. Danco Davcev)**

- Using mobile cloud computing in order to analyze, process and deliver multimedia content to the users.
- Propose a framework which offloads the process of dynamically adapting the multimedia content to the context-aware mobile users.

Sep 2012 – Sep 2013**Adaptive Multimedia Learning Delivered in Mobile Cloud Environments (AMUMO)
National Project at the Faculty of Computer Science and Engineering (FINKI),
Skopje, Macedonia (managed by prof. Danco Davcev)**

- Using mobile cloud computing in order to analyze, process and deliver multimedia content to the users.
- Propose a framework which offloads the process of dynamically adapting the multimedia content to the context-aware mobile learning environment.
- Providing the student with multimedia that is tailored to its cognitive style (profile) and adapting the content according the context – aware network conditions.

**Honours and awards
(Received Grants)**

- COST IC1304 ACROSS Grant for the Short Term Scientific Mission (STSM) about Resource Management in Virtualized 5G Networks and Mobile Cloud Computing (2014), at University of Coimbra, Coimbra, Portugal (2014).
- COST IC1301 WiPE Grant for the International Summer School in Wireless Power Transmission for Space Applications, at University of Aveiro, Aveiro, Portugal (2014).
- COST IC0906 WiNEMO Grant for the First International School of Nanocommunications at Tampere University of Technology, Tampere, Finland (2013).

Memberships

Institute of Electrical and Electronics Engineers (IEEE)
Association for Computing Machinery (ACM)

References**Toni Janevski**

Full-time Professor, Ph.D.

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Danco Davcev

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