![europass logo] **europass** Curriculum vitae

PERSONAL INFORMATION	**Costin Raiciu**

📍 ED217, Facultatea de Automatica si Calculatoare, Universitatea Politehnica din Bucuresti, Bucharest (Romania)

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WORK EXPERIENCE

01/09/2007–01/09/2010

Researcher
University College London, London, (United Kingdom)

Worked in the Trilogy FP7 project on developing Multipath TCP

01/10/2010–Present

Associate professor
University Politehnica of Bucharest, Bucharest (Romania)

EDUCATION AND TRAINING

01/09/2004–01/10/2010

PhD in Computer Science
University College London, London, (United Kingdom)

Thesis on "Roar: Increasing the Flexibility and Performance of Distributed Search"

01/09/2003–01/07/2004

Masters' Degree in Computer Science
Facultatea de Automatica si Calculatoare, Universitatea Politehnica din Bucuresti.

01/09/1998–01/07/2003

Undergraduate Degree in Computer Science
Facultatea de Automatica si Calculatoare, Universitatea Politehnica din Bucuresti

PERSONAL SKILLS

Mother tongue(s)   Romanian

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C2	C2	C2	C2	C2

English

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

ADDITIONAL INFORMATION

Projects

Principal Investigator for the **CORNET ERC Starting Grant Project** (2018-2022)

Topics: Network verification.

UPB Budget: 1.325.000 euro

Principal Investigator for the **SUPERFLUIDITY H2020 Project** (2015-2017)

Topics: 5G networks, static analysis of foreign code.

UPB Budget: 300.000 euro

Principal Investigator for the **SSICLOPS H2020 Project** (2015-2017)

Topics: datacentre networks, private clouds.

UPB Budget: 320.000 euro

Main achievements (so far):

HotCloud 2015 paper called "Oh Sender Are Thou Happy? TCP Sendbuffer advertising for make-benefit of clouds and tenants"

Principal Investigator for the **Trilogy2 FP7 Project** (2014-2016)

Topics: resource liquidity (CPU, bandwidth, storage) and control
UPB Budget: 350000 euro

Main achievements:

Towards Mobility without Fast Handover – Croitoru et. Al - in NSDI 2015

Increasing Datacenter Network Utilization with GRIN – Agache et. Al. – NSDI 2015

Principal Investigator for the **Mobil4** PNII Project (2013-2016)

Topics: mobility
UPB Budget: 1,000,000RON

Main achievements:

Using Cooperation for Low Power Low Latency Cellular Connectivity – Nicutar et al – CONEXT 2014

Cerere **brevet inventie** (2013-00711/27.09.2013): Metoda si sistem de conectare celulara cu consum redus de energie si costuri reduse

Principal Investigator for the **CHANGE** FP7 Project (2010-2013)

Topics: middleboxes, Internet architecture
UPB Budget: 300,000EUR

Main achievements:

In-Net : In-Network Processing for the Masses – Stoenescu et al – EUROSYS 2015

How hard can it be? Designing and Implementing a deployable Multipath TCP – Raiciu et al - NSDI 2012

Improving datacenter performance and robustness with Multipath TCP – Raiciu et al-SIGCOMM 2011

Design, Implementation and Evaluation of Congestion Control for Multipath TCP – Wischik et al. NSDI 2011

Is It Possible to Extend TCP? – Honda et al – IMC 2011

JOCHEN LIEDTKE YOUNG RESEARCHER AWARD at Eurosys 2019 for being one of the top young researchers in systems in Europe.

BEST PAPER AWARD at Sigcomm 2017 for the paper " Re-archtiecting datacenter networks and stacks for low latency and high performance"

COMMUNITY AWARD at NSDI 2018 for the paper " Stateless Datacenter

Load Balancing with Beamer"

BEST PAPER AWARD at NSDI 2011 for the paper "Design, Implementation and Evaluation of Congestion Control for Multipath TCP"

COMMUNITY AWARD at NSDI 2012 for the paper "How hard can it be? Designing and Implementing a deployable Multipath TCP"

APPLIED NETWORKING RESEARCH AWARD in 2012 for the paper "Is It Still Possible to Extend TCP?"

CITATIONS

8300 citations on Google Scholar as of 1.1.2021

STANDARDS

RFC 6182 Architectural Guidelines for Multipath TCP Development - A Ford, C. Raiciu, M. Handley, S. Barre, J. Iyengar - March 2011

RFC 6356 Coupled Congestion Control for Multipath Transport Protocols - C. Raiciu, M. Handley, D. Wischik - October 2011

RFC 6824 TCP Extensions for Multipath Operation with Multiple Addresses - A. Ford, C. Raiciu, M. Handley, O. Bonaventure - January 2013

RFC 7430 Analysis of Residual Threats and Possible Fixes for Multipath TCP (MPTCP) - M. Bagnulo, C. Paasch, F. Gont, O. Bonaventure, C. Raiciu - July 2015

PAPERS

Dataplane equivalence and its applications - Dragos Dumitrescu, Radu Stoenescu, Matei Popovici, Lorina Negreanu and Costin Raiciu - in NSDI 2019

Secure Opportunistic Multipath Key Exchange - Sergiu Costea, Marios Choudary, Doru Gucea, Bjoern Tackmann, Costin Raiciu - in CCS 2018

Debugging P4 Programs with Vera - Radu Stoenescu, Dragos Dumitrescu, Matei Popovici, Lorina Negreanu and Costin Raiciu - in SIGCOMM 2018

Stateless Datacenter Load-balancing with Beamer - Vladimir Olteanu, Alexandru Agache, Andrei Voinescu, and Costin Raiciu - in NSDI 2018

Re-architecting datacenter networks and stacks for low latency and high performance - Mark Handley, Costin Raiciu, Alexandru Agache, Andrei Voinescu, Gianni Antichi, Andrew Moore, Marcin Wojcik -in SIGCOMM 2017 [Awarded Best Paper]

My VM is Lighter (and Safer) than your Container - Filipe Manco, Costin Lupu, Florian Schmidt, Jose Mendez, Simon Kuenzer, Sumit Sati, Kenichi Yasukata, Costin Raiciu, Felipe Huici - in SOSP 2017

CloudTalk: Enabling Distributed Application Optimizations in Public Clouds - Alexandru Agache, Mihai Ionescu, Costin Raiciu - in Eurosys 2017

Integrating Verification and Repair into the Control Plane - Aaron Gember Jacobson, Costin Raiciu, Laurent Vanbever - in HotNets 2017

Sharing CPUs via endpoint congestion control - Laura Vasilescu, Vladimir Olteanu, Costin Raiciu - in KBNets 2017

Symnet: scalable symbolic execution for modern networks - Radu Stoenescu, Matei Popovici, Lorina Negreanu and Costin Raiciu - in SIGCOMM 2016

Exploiting Multipath Congestion Control for Fun and Profit - Matei Popovici and Costin Raiciu - in Hotnets 2016

Datacenter scale load balancing for multipath transport - Vladimir Olteanu and Costin Raiciu - in HotMiddlebox 2016

OpenStack networking for humans: symbolic execution to the rescue - Radu Stoenescu, Dragos Du- mitrescu and Costin Raiciu - Invited Paper in LANMAN 2016

In-Net : In-Network Processing for the Masses - Radu Stoenescu, Matei Popovici, Vladimir Olteanu, Joao Martins, Roberto Bifulco, Felipe Huici, Mohamed Ahmed, Georgios Smaragdakis, Mark Handley and Costin Raiciu - in proceedings of ACM EUROSYS 2015, Bordeaux, France.

Towards Wifi Mobility without Fast Handover - Andrei Croitoru, Dragos Niculescu and Costin Raiciu - in proceedings of Usenix NSDI 2015, Oakland, USA.

Increasing Datacenter Network Utilization with GRIN - Alexandru Agache, Razvan Deaconescu and Costin Raiciu - in proceedings of Usenix NSDI 2015, Oakland, USA.

Oh Flow, Are Thou Happy? TCP sendbuffer advertising for make benefit of clouds and tenants - Alexandru Agache, Costin Raiciu - in HotCloud 2015, Santa Clara, USA

Lost in Network Address Translation: Lessons from Scaling the World's Simplest Middlebox - Vladimir Olteanu, Felipe Huici, Costin Raiciu - in HotMiddlebox 2015, London, UK

Using Cooperation for Low Power Low Latency Cellular Connectivity - Catalin Nicutar, Dragos Niculescu and Costin Raiciu - in proceedings of ACM Conext 2014, Sydney, Australia.

ClickOS and the Art of Network Function Virtualization - J. Martins, Mohamed Ahmed, Costin Raiciu, Vladimir Olteanu, Michio Honda, Roberto Bifulco and Felipe Huici - in proceedings of Usenix NSDI 2014, Seattle, USA.

Rekindling Network Protocol Innovation with User-Level Stacks - M. Honda, F. Huici, C. Raiciu, J. Araujo, L. Rizzo - in Computer Communication Review, April 2014.

Enabling Fast, Dynamic Network Processing with ClickOS - J. Martins, M. Ahmed, C. Raiciu, F. Huici - in procedings of HotSDN 2013

Evolving the Internet with Connection Acrobatics - C. Nicutar, C. Paasch, M. Bagnulo, C. Raiciu - in proceedings of HotMiddlebox 2013

SymNet: Static Checking for Stateful Networks - R. Stoenescu, M. Popovici, L. Negreanu, C. Raiciu - in proceedings of HotMiddlebox 2013

How Hard Can It Be? Designing and implementing a deployable Multipath TCP - C. Raiciu, C. Paasch, S. Barre, A. Ford, F. Duchene, O. Bonaventure and M. Handley in procedings of Usenix NSDI, San Jose, California [Community Award]

Utilizing the Empty Half of Full Bisection Networks with GRIN - A. Agache, C. Raiciu - in procedings of HotCloud 2012

Opening Up Black Box Networks with CloudTalk - C. Raiciu, M. Ionescu, D. Niculescu - in procedings of HotCloud 2012

Exploring Mobile/WiFi Handover with Multipath TCP - C. Paasch, G. Detal, F. Duchene, C. Raiciu, O. Bonaventure - in procedings of CellNet 2012

An Overview of Multipath TCP - O. Bonaventure, M. Handley and C. Raiciu - in the Usenix ;login: magazine, October 2012, Volume 37, Number 5. Download here (Usenix subscription required).

Is It Possible to Extend TCP? - M. Honda, Y. Nishida, C. Raiciu, A. Greenhalgh, M. Handley, H. Tokuda - in proceedings of ACM Internet Measurement Conference (IMC) 2011, Berlin, Germany [Awarded the Applied Networking Research Prize by the Internet Research Task Force]

Improving datacenter performance and robustness with Multipath TCP - C. Raiciu, S. Barre, C. Plun- tke, A. Greenhalgh, D. Wischik, M. Handley - in proceedings of ACM SIGCOMM 2011, Toronto, CA

Design, Implementation and Evaluation of Congestion Control for Multipath TCP - D. Wischik, C. Raiciu, A. Greenhalgh, M. Handley in proceedings of Usenix NSDI, 2011, Boston, USA [Best Paper Award]

Opportunistic Mobility with Multipath TCP - C. Raiciu, D. Niculescu, M.Bagnulo, M. Handley in proceedings of the MobiArch Workshop (colocated with ACM Mobisys), 2011, Washington DC, USA

Data Center Networking with Multipath TCP - C. Raiciu, C. Pluntke, S. Barre, A. Greenhalgh, D. Wischik, M. Handley. in Proceedings of ACM Hotnets 2010, Monterey, California

ROAR: Increasing the Flexibility and Performance of Distributed Search - C. Raiciu, F. Huici, M. Handley, D.S. Rosenblum , in proceedings of ACM SIGCOMM, August 2009, Barcelona, Spain

Control of multipath TCP and optimization of multipath routing in the Internet - D.Wischik, M. Handley, C. Raiciu, invited paper in NetCoop 2009, November 2009, Eindhoven, The Netherlands.

Preventing memory error exploits with WIT - P. Akritidis, C. Cadar, C. Raiciu, M. Costa, M. Castro , in proceedings of IEEE Security and Privacy (Oakland), May 2008, Oakland, USA

Reducing Congestion Effects in Wireless Networks by Multipath Routing - L. Popa, C. Raiciu, I. Stoica, D. S. Rosenblum, in proceedings of IEEE ICNP , November 2006,Santa Barbara, USA

Enabling Confidentiality in Content-Based Publish/Subscribe Infrastructures - C. Raiciu, D. S. Rosen- blum, in proceedings of IEEE Securecomm , August 2006, Baltimore, USA.

Exploit Hijacking: Side Effects Of Smart Defenses - C. Raiciu, M. Handley, D.S. Rosenblum, in pro- ceedings of ACM SIGCOMM Workshop on Large Scale Attacks and Defenses, September 2006, Pisa, Italy

Revisiting Content-Based Publish/Subscribe - C. Raiciu, D.S. Rosenblum, M. Handley, in Proceedings of the IEEE ICDCS Workshop on Distributed Event Based Systems, July 2006, Lisbon, Portugal.

Using Code Collection to Support Large Applications on Mobile Devices - L. Popa, C. Raiciu, R. Teodorescu, I. Athanasiu, R. Pandey, in proceedings of ACM MobiCom, September 2004, Philadelphia, USA

Conf. Dr. Costin Raiciu