Abdullah Aydeger

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Research interests	\$	Cybersecurity, SDN, Computer Networks, IoT, Network Defense, NFV, Machine Learning
Education	\$	Doctor of Philosophy, GPA: 3,91/4Expected Aug 2020Department of Electrical & Computer EngineeringExpected Aug 2020Florida International University, Miami, FL, USAExpected Aug 2020
		· Dissertation Title: Software Defined Networking Based Resilient and Secure Framework for Cyberphysical Systems
		· Advisor: Dr. Kemal Akkaya
	\$	Master of Science, GPA: 3,96/4Aug 2016Department of Electrical & Computer EngineeringFlorida International University, Miami, FL, USA
		 Thesis Title: Software Defined Networking for Smart Grid Communications Advisor: Dr. Kemal Akkaya
	\$	Bachelor of ScienceJun 2013Department of Computer EngineeringIstanbul Technical University, Istanbul, TURKEY
		 Thesis Title: Improved AODV routing algorithm on wireless sensor networks Advisor: Dr. Sema Oktug
Work Experience	\$	Graduate Teaching Assistant, Full-timeJan 2015 – ongoingAdvanced Wireless and Security Lab, Department of Electrical & Computer Engineering, Florida International University, Miami, FL, USAUnder the supervision of Dr. Kemal Akkaya
		· Implemented a defense mechanism on Software Defined Networking (SDN) based Moving Target Defense against Link Flooding DDoS Attacks
		· Designed and implemented an SDN based disaster recovery for Smart Grid systems by integrating of ns-3 and mininet
		\cdot Prepared class experiments for Logic Design Lab for the new FPGA BASYS3 boards
	\diamond	Software Developer & Instructor, Full-time Nov 2013 – Dec 2014 BilgeAdam IT Services, Istanbul, Turkey
		· Prepared educational materials for "Effective Java Programming" tutorials for company's private lecture services

	◊ Embedded Programmer & Researcher, Internship Jun 2013 – Sep 2013 Institute for Infocomm Research, Singapore Under the supervision of Dr. Ge Yu
	• Improved and implemented Guaranteed Time Slot MAC protocol on wireless sensor networks
	 ◇ Software Developer & Researcher, Part-time Jan 2013 – Jun 2013 AVEA Telecommunication, Turkey Under the supervision of Dr. Engin Zeydan
	\cdot Conducted research on caching in base-stations
	 ◇ Software Developer & Researcher, Internship Jun 2012 - Sep 2012 Data Storage Institute, Singapore Under the supervision of Dr. Zhu Yongqing
	\cdot Implemented a search engine in a forum website, with Java and some part of the backend with C language
Refereed Book Chapters	 1. N. Saputro, S. Tonyali, A. Aydeger, K. Akkaya, M. Rahman, and S. Uluagac, "A Review of Moving Target Defense Mechanisms for Internet of Thing", Book Chapter in <i>Modeling and Design of Secure Internet of Things</i>, Wiley-IEEE Press, 2020 (To Appear).
	2. K. Akkaya, , A. Uluagac, A. Aydeger and A. Mohan, "Secure Software-Defined Networking Architectures for the Smart Grid", Book Chapter in Smart Grid: Net- working, Data Management, and Business Models (2017), edited by H. Mouftah.
Refereed journal papers	 A. Aydeger, M. Hossein, M. A. Rahman, and. K. Akkaya, "Strategic Defense against Stealthy Link Flooding Attacks: A Signaling Game Approach", in <i>IEEE Transactions on Network Science and Engineering</i> (under review).
	A. Aydeger, N. Saputro and K. Akkaya, "A Moving Target Defense and Network Forensics Framework for ISP Networks using SDN and NFV", in <i>Future Generation</i> Computer Systems, Vol. 94, pp. 496-509, 2019.
	◊ 3. A. Aydeger, N. Saputro, K. Akkaya and A. Uluagac, "SDN-enabled recovery for Smart Grid teleprotection applications in post-disaster scenarios", in <i>Journal</i> of Network and Computer Applications, Vol. 138, pp. 39-50, 2019.
Refereed Proceeding	 A. Aydeger, N. Saputro, K. Akkaya, "Utilizing NFV for Effective Moving Target Defense against Link Flooding Reconnaissance Attacks", in the <i>Proceedings</i> of Military Communications (Milcom), Los Angeles, FL, Oct. 2018.
	A. Aydeger, N. Saputro, K. Akkaya, "Assessing the Overhead of Authentica- tion during SDN-Enabled Restoration of Smart Grid Inter-substation Communica- tions", in the Proceedings of Consumer Communications & Networking Conference (CCNC), Las Vegas, NV, Jan. 2018.
	◊ 3. A. Aydeger, N. Saputro, K. Akkaya and M. Rahman, "Mitigating Crossfire Attacks using SDN-based Moving Target Defense", in the <i>Proceedings of IEEE</i> Local Computer Networks (LCN'16), Dubai, UAE, Nov. 2016.

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	\$ 4. A. Aydeger, K. Akkaya, M. Cintuglu, A. Uluagac, and O. Mohammed, "Software Defined Networking for Resilient Communications in Smart Grid Active Distribution Networks", in the Proceedings of IEEE International Conference on Communications (ICC'16) Kuala Lumpur, Malaysia, June 2016.
	◊ 5. A. Aydeger, K. Akkaya, and A. Uluagac "SDN-based Resilience in Smart Grid", in the <i>Proceedings of NFV & SDN Conference Demos 2015</i> , San Francisco, CA, Nov. 2015.
	6. K. Akkaya, A. S. Uluagac and A. Aydeger "Software Defined Networking for Wireless Local Networks in Smart Grid", in the Proceedings of IEEE Local Computer Networks Workshops 2015, Clearwater, FL, Oct. 2015.
	◊ 7. A. Aydeger, E. Ghaleb, S. Oktug, "An energy efficient routing technique and implementation in WSNs", in the <i>Proceedings of 22nd Signal Processing and Com-</i> <i>munications Applications Conference (SIU)</i> , Trabzon, Turkey, Apr 2014.
Reviewer	♦ IEEE Communications Surveys & Tutorials
Roles	\diamond IEEE Transactions on Mobile Computing
	\diamond Elsevier Future Generation Computer Systems
	\diamond Elsevier Journal of Network and Computer Applications
	♦ Elsevier Computer Networks
	\diamond IEEE Conference on Local Computer Networks
	♦ IEEE Vehicular Technology Conference
	\diamond IEEE Military Communication
Teaching	♦ Course Taught
EXPERIENCE	\cdot EEL 3712L: Logic Design Lab (Fall 2018, Summer 2019, Fall 2019)
	♦ Courses TAed
	· EEL 5718: Computer Communication Networks (Fall 2016, 2017, 2018, 2019)
	 TCN 5271: Ubiquitous & Embedded Sensor Network Centric Telecommuni- cations (Spring 2016, 2017, 2018, 2019)
	\cdot TCN 4211: Telecommunication Networks (Spring 2016, 2017, 2018)
University Service	◊ Committee: Conference for Undergraduate Research at FIU (CURFIU) 2019, Serving as Judge
Awards & Honors	◊ Florida International University Teaching Assistantship (2016 - 2020)
	\diamond Florida International University Teaching Assistantship $(2015$ - $2016)$
	◊ Singapore International Pre-Graduate Award (SIPGA) from A*STAR (Jun - Sep 2013)
	◊ Singapore International Pre-Graduate Award (SIPGA) from A*STAR (Jun - Sep 2012)

Talks and Demos	Secure Miami Conference, Florida International University (FIU) – Miami, FL, February 9, 2019 Network Protection Against DDoS Attacks Using SDN and NFV
	 Florida Institute for Cybersecurity (FICS) Annual Conference on Cybersecurity, University of Florida - Gainesville, FL, March 7-8, 2017 A Moving Target Defense and Network Forensics Framework for ISP Networks using SDN and NFV
	 Secure Evolvable Energy Delivery Systems, Florida International University (FIU) Miami, FL, January 19 2017 Post-Disaster SDN-Enabled Network Security
	\diamond Attended personally and presented all accepted conference papers listed above
Computer skills	◊ Programming Languages : Python, Java, C, C++, VHDL
	♦ Simulation/Emulation Environments: Mininet, ns-3, GENI
	◊ Tools: Floodlight SDN Controller, VM VirtualBox, Wireshark, scapy, Eclipse IDE, Matlab