

ADAssure : debugging methodology for autonomous driving control algorithms

Roberts, Andrew James; Heidari Iman, Mohammad Reza; Bellone, Mauro; Ghasempouri, Tara; Raik, Jaan; Maennel, Olaf Manuel; Hamad, Mohammad; Steinhorst, Sebastian 2024 Design, Automation & Test in Europe Conference & Exhibition (DATE) : proceedings 2024 / p. 1-6 <https://doi.org/10.23919/DATE58400.2024.10546519>

ADSecData platform: an open-source data platform for autonomous driving cybersecurity

Roberts, Andrew James; Malayjerdi, Mohsen; Bellone, Mauro; Sell, Raivo; Maennel, Olaf Manuel; Hamad, Mohammad; Steinhorst, Sebastian 2025 IEEE 101st Vehicular Technology Conference, VTC2025-Spring, 17-20 June 2025, Oslo, Norway 2025 / 7 p <https://www.etis.ee/Portal/Publications/Display/d6c0e7e7-c789-4c27-ae91-aabd943e3e7f>

ADSecLang: a domain-specific language for cybersecurity testing of autonomous vehicles

Roberts, Andrew James; Cheng, Jingyue; Maennel, Olaf Manuel; Hamad, Mohammad; Steinhorst, Sebastian 2025 IEEE 101st Vehicular Technology Conference, VTC2025-Spring, 17-20 June 2025, Oslo, Norway 2025 / 6 p <https://www.etis.ee/Portal/Publications/Display/a8bb1234-4dfd-46f5-aae6-19bf25b2f222>

AIS data analysis: reality in the Sea of Echos

Visky, Gabor; Rohl, Alexander; Katsikas, Sokratis; Maennel, Olaf Manuel 2024 IEEE 49th Conference on Local Computer Networks (LCN) 2024 / 7 p <https://doi.org/10.1109/LCN60385.2024.10639765>

An expectation-based approach to policy-based security of the Border Gateway Protocol

Li, Jun; Stein, Josh; Zhang, Mingwei; **Maennel, Olaf Manuel** 2016 IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS) : GI 2016 : IEEE Global Internet Symposium : April 10-14, 2016, San Francisco, CA, USA 2016 / p. 340-345 : ill <https://doi.org/10.1109/INFCOMW.2016.7562098> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Analysing adversarial threats to rule-based local-planning algorithms for autonomous driving

Roberts, Andrew James; Malayjerdi, Mohsen; Bellone, Mauro; Maennel, Olaf Manuel; Malayjerdi, Ehsan The Inaugural Symposium on Vehicle Security and Privacy (VehicleSec) 2023, 27 February 2023, San Diego, CA, USA 2023 / 8 p. : ill <https://doi.org/10.14722/vehiclesec.2023.23086>

Analysing the actual use of controller-pilot data link communications

Orye, Erwin; **Visky, Gabor; Maennel, Olaf Manuel** Engineering Proceedings 2022 / art. 18 <https://doi.org/10.3390/engproc2022028018>

Analysis of autonomous driving software to low-level sensor cyber attacks

Roberts, Andrew James; Malayjerdi, Mohsen; Bellone, Mauro; Sell, Raivo; Maennel, Olaf Manuel; Hamad, Mohammad; Steinhorst, Sebastian 20th International Conference on Software Engineering for Adaptive and Self-Managing Systems, SEAMS 2025, 28-29 April 2025, Ottawa, Ontario, Canada 2025 / 11 p <https://www.etis.ee/Portal/Publications/Display/c612b9a7-7a51-4621-b2d2-76ec03764667>

Art and automation of teaching malware reverse engineering

Lepik, Toomas; Maennel, Kaie; Ernits, Margus; Maennel, Olaf Manuel Learning and Collaboration Technologies : Learning and Teaching : 5th International Conference : LCT 2018, Held as Part of HCI International 2018, Las Vegas, NV, USA, July 15-20, 2018 : Proceedings, Part II 2018 / p. 461-472 https://doi.org/10.1007/978-3-319-91152-6_35 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

Automating defences against cyber operations in computer networks = Arvutivõrkude kaitse automatiseerimine küberoperatsioonide vastu

Pihelgas, Mauno 2021 <https://doi.org/10.23658/taltech.36/2021> https://www.ester.ee/record=b5449710*est <https://digikogu.taltech.ee/et/Item/beb3e841-9c6e-4496-a73a-17148bc941ef>

Building an ontology for cyber defence exercises

Babayeva, Gulkhara; Maennel, Kaie; Maennel, Olaf Manuel IEEE European Symposium on Security and Privacy Workshops (EuroS&PW) 2022 / p. 423-432 <https://doi.org/10.1109/EuroSPW55150.2022.00050>

Combined safety and cybersecurity testing methodology for autonomous driving algorithms

Roberts, Andrew James; Malayjerdi, Mohsen; Malayjerdi, Ehsan; Maennel, Olaf Manuel CSCS '22 : Proceedings of the 6th ACM Computer Science in Cars Symposium 2022 / art. 12, 10 p <https://doi.org/10.1145/3568160.3570235>

A comprehensive instrument for identifying critical information infrastructure services

Herrera, Luis-Carlos; **Maennel, Olaf Manuel** International Journal of Critical Infrastructure Protection 2019 / p. 50-61 : ill <https://doi.org/10.1016/j.ijcip.2019.02.001> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A conceptual nationwide cyber situational awareness framework for critical infrastructures

Bahsi, Hayretudin; Maennel, Olaf Manuel Secure IT systems : 20th Nordic Conference, NordSec 2015, Stockholm, Sweden, October 19-21, 2015 : proceedings 2015 / p. 3-10 : ill https://doi.org/10.1007/978-3-319-26502-5_1 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

Creating and detecting IPv6 transition mechanism-based information exfiltration covert channels

Blumbergs, Bernhards; Pihelgas, Mauno; Kont, Markus; Maennel, Olaf Manuel; Vaarandi, Risto Secure IT Systems : 21st Nordic Conference, NordSec 2016, Oulu, Finland, November 2-4, 2016 : proceedings 2016 / p. 85-100 : ill https://doi.org/10.1007/978-3-319-47560-8_6 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

Cyber hygiene : the big picture

Maennel, Kaie; Mäses, Sten; Maennel, Olaf Manuel Secure IT Systems : 23rd Nordic Conference, NordSec 2018, Oslo, Norway, November 28-30, 2018 : proceedings 2018 / p. 291-305 : ill https://doi.org/10.1007/978-3-030-03638-6_18 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

CyberGenomics : application of behavioral genetics in cybersecurity

Domarkiene, Ingrida; Ambrozaityte, Laima; Bukauskas, Linas; Rancelis, Tautvydas; Sütterlin, Stefan; Knox, Benjamin James; Maennel, Kaie; Maennel, Olaf Manuel; Parish, Karen; Lugo, Ricardo Gregorio; Brilingaite, Agne Behavioral Sciences 2021 / art. 152 <https://doi.org/10.3390/bs11110152> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cybersecurity test range for autonomous vehicle shuttles

Roberts, Andrew James; Snetkov, Nikita; Maennel, Olaf Manuel 2021 IEEE European Symposium on Security and Privacy Workshops EuroS&PW 2021 : Virtual Conference, 6-10 September 2021 : proceedings 2021 / p. 239-248 : ill <https://doi.org/10.1109/EuroSPW54576.2021.00031>

Cybersecurity testing and attack propagation analysis of autonomous driving software = Autonoomse sõiduki juhtimistarkvara küberturvalisuse testimine ja rünnakute leviku analüüs

Roberts, Andrew James 2025 https://www.ester.ee/record=b5750527*est <https://digikogu.taltech.ee/et/Item/fbecd0b1-252c-4a7d-b06c-588683fd4640> <https://doi.org/10.23658/taltech.41/2025>

The design and implementation of a semantic web framework for the event-centric digital forensics analysis

Tšikul, Pavel; Bahşi, Hayretidin; Maennel, Olaf Manuel International Conference on Information Systems Security and Privacy. 1 2024 / p. 570-581 <https://doi.org/10.5220/0012437700003648> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Eestis luuakse merenduse küberturbe keskus

Transport ja Logistika : infoleht 2020 / lk. 12 https://www.ester.ee/record=b1975868*est

Enhancing forensic-tool security with Rust : Development of a string extraction utility

Getreu, Jens; Maennel, Olaf Manuel Journal of Digital Forensics, Security and Law 2019 / art. 4, p. 46-58 : ill <https://doi.org/10.15394/jdfls.2019.1607>

Evaluating cybersecurity-related competences through simulation exercises = Küberturbe-alaste kompetentside hindamine simulatsiooniharjutuste abil

Mäses, Sten 2020 https://www.ester.ee/record=b5384385*est <https://digikogu.taltech.ee/et/Item/b4c33d3b-e7ce-48ad-98ad-a0add5e571a3>

From simple scoring towards a meaningful interpretation of learning in cybersecurity exercises

Ernits, Margus; Mäses, Sten; Lepik, Toomas; Maennel, Olaf Manuel Proceedings of the 15th International Conference on Cyber Warfare and Security (ICWS) : Old Dominion University (ODU), Norfolk, Virginia, USA, 12-13 March 2020 2020 / p. 135-143 <https://doi.org/10.34190/ICWS.20.046>

FuzzSense : Towards A Modular Fuzzing Framework for Autonomous Driving Software

Roberts, Andrew James; Teply, Lorenz; Pese, Mert D.; Maennel, Olaf Manuel; Hamad, Mohammad; Steinhorst, Sebastian arXiv.org 2025 / arXiv:2504.10717, 6 p. : ill <https://doi.org/10.48550/arXiv.2504.10717>

Gaps in European Cyber Education and Professional Training WG5 I Education : training, awareness, cyber ranges [Online resource]

Maennel, Olaf Manuel; Csaba, Virag 2018 <https://www.ecs-org.eu/documents/publications/5bf7e01bf3ed0.pdf>

Geolocation of Tor hidden services : initial results [Online resource]

Gunn, Lachlan J.; Pikker, Heiki; Maennel, Olaf Manuel; Allison, Andrew; Abbot, Derek Proceedings of the 3rd Interdisciplinary Cyber Research Workshop 2017 : 8th of July 2017 2017 / p. 67-69 : ill https://www.ttu.ee/public/k/kyberkriminalistika_ja_kyberjulgeoleku_keskus/crw2017_final.pdf

Ghost injection attack on automatic dependent surveillance—broadcast equipped drones impact on human behaviour

Haddad, Yazeed; Orye, Erwin; Maennel, Olaf Manuel 2021 IEEE International Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA) : Virtual Conference, 14-22 May 2021 : proceedings 2021 / p. 161-166 <https://doi.org/10.1109/CogSIMA51574.2021.9475928>

Hacking on the high seas: How automated reverse-engineering can assist vulnerability discovery of a proprietary communication protocol

Visky, Gabor; Rohl, Alexander; Vaarandi, Risto; Katsikas, Sokratis; Maennel, Olaf Manuel 2024 IEEE 49th Conference on Local Computer Networks (LCN) 2024 / 7 p <https://doi.org/10.1109/LCN60385.2024.10639746>

Improving and measuring learning effectiveness at cyber defense exercises

Maennel, Kaie; Ottis, Rain; Maennel, Olaf Manuel Secure IT Systems : 22nd Nordic Conference, NordSec 2017, Tartu, Estonia, November 8-10, 2017 : proceedings 2017 / p. 123-138 : ill https://doi.org/10.1007/978-3-319-70290-2_8 [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Inimesi ei saa sundida, neid tuleb motiveerida : [kõne TTÜ aastapäevaktusel 17.09.2015]

Maennel, Olaf Manuel Mente et manu 2015 / lk. 7-8 : fot https://artiklid.elnet.ee/record=b2746563*est

Introductory remarks

Osula, Anna-Maria; Maennel, Olaf Manuel Proceedings of the 4th Interdisciplinary Cyber Research Workshop 2018 : 9th of June 2018 2018 / lk. 5 https://www.ttu.ee/public/k/kyberkriminalistika_ja_kyberjulgeoleku_keskus/CRW_2018_lingitud.pdf

Introductory remarks [Online resource]

Osula, Anna-Maria; Maennel, Olaf Manuel Proceedings of the 1st Interdisciplinary Cyber Research Workshop 2015 : 18th of July 2015, Tallinn University of Technology 2015 / p. 5 <http://cybercentre.cs.ttu.ee/en/icr2015/>

i-tee : a fully automated cyber defense competition for students

Ernits, Margus; Tammekänd, Johannes; **Maennel, Olaf Manuel** SIGCOMM '15 : proceedings of the 2015 ACM Conference on Special Interest Group on Data Communication : August 17-21, 2015, London, United Kingdom 2015 / p. 113-114 : ill <https://doi.org/10.1145/2785956.2790033> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Küberkaitse tipptegijad õpivad Eestis digitaalset ühiskonda turvama : [intervjuu TTÜ professori Olaf Maenelliga]

Lõugas, Hans; **Maennel, Olaf Manuel** Eesti Päevaleht 2015 / lk. 17 <https://epl.delfi.ee/artikkel/71888393/kuberkaitse-tipptegijad-opivad-eestis-digitaalset-uhiskonda-turvama>

Lightweight testbed for IEC61162-450-related cyber security research

Visky, Gabor; Katsikas, Sokratis; **Maennel, Olaf Manuel** 2024 IEEE International Conference on Cyber Security and Resilience (CSR) : proceedings 2024 / p. 638-643 <https://doi.org/10.1109/CSR61664.2024.10679439>

A method for teaching Open Source Intelligence (OSINT) using personalised cloud-based exercises

Yari, Saber; **Mäses, Sten; Maennel, Olaf Manuel** Proceedings of the 15th International Conference on Cyber Warfare and Security (ICCWS) : Old Dominion University (ODU), Norfolk, Virginia, USA, 12-13 March 2020 2020 / p. 480-489 <https://doi.org/10.34190/ICCWS.20.091>

Mis toimub tehisintellekti "kapoti all" ja miks me seda teadma peame?

Härmat, Karin Mente et Manu 2022 / lk. 30-33 : fot https://www.ester.ee/record=b1242496*est

Mixed methods research approach and experimental procedure for measuring human factors in cybersecurity using phishing simulations

Mäses, Sten; Kikerpill, Kristjan; Jüristo, Kaspar; **Maennel, Olaf Manuel** Abstracts of Papers Presented at the 18th European Conference on Research Methodology for Business and Management Studies : ECRM 2019, Hosted By Wits Business School Johannesburg, South Africa 20-21 June, 2019 2019 / p. 30-31 ["ECRM19"](#)

Mixed methods research approach and experimental procedure for measuring human factors in cybersecurity using phishing simulations

Mäses, Sten; Kikerpill, Kristjan; Jüristo, Kaspar; **Maennel, Olaf Manuel** ECRM 2019 - Proceedings of the 18th European Conference on Research Methodology for Business and Management Studies ; vol. 1 2019 / p. 218-226 <http://toc.proceedings.com/49537webtoc.pdf>

A multidimensional cyber defense exercise: emphasis on emotional, social, and cognitive aspects

Maennel, Kaie; Brilingaite, Agne; Bukauskas, Linas; Juozapavicius, Ausrius; Knox, Benjamin James; **Lugo, Ricardo Gregorio; Maennel, Olaf Manuel;** Majore, Ginta; Sütterlin, Stefan SAGE Open 2023 / 12 p. : ill <https://doi.org/10.1177/21582440231156367> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Multi-modal biometric system security and privacy

Essen, Akim; Sorell, Matthew; **Maennel, Olaf Manuel** Proceedings of the 5th Interdisciplinary Cyber Research Conference 2019 : 29th of June 2019, Tallinn University of Technology 2019 / p. 30-32 https://www.ester.ee/record=b5238490*est

Obtaining better metrics for complex serious games within virtualised simulation environments

Mäses, Sten; Hallaq, Bil; **Maennel, Olaf Manuel** 11th European Conference on Games Based Learning (ECGBL 2017) : Graz, Austria, 5 - 6 October 2017 2017 / p. 428-434 : ill <http://www.scopus.com/inward/record.uri?eid=2-s2.0-85036459293&partnerID=40&md5=2ba817e29bec893e126f50a3d4ede83c>

An ontology engineering case study for advanced digital forensic analysis

Chikul, Pavel; Bahsi, Hayretidin; Maennel, Olaf Manuel Model and Data Engineering : 10th International Conference, MEDI 2021,

Tallinn, Estonia, June 21–23, 2021 : proceedings 2021 / p. 67–74 https://doi.org/10.1007/978-3-030-78428-7_6 [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Proceedings of the 1st Interdisciplinary Cyber Research Workshop 2015 : 18th of July 2015, Tallinn University of Technology [Online resource]

2015 <http://cybercentre.cs.ttu.ee/en/icr2015/>

Proceedings of the 2nd Interdisciplinary Cyber Research Workshop 2016 [Online resource]

2016 http://cybercentre.cs.ttu.ee/wp/wp-content/uploads/2016/03/CRW_2016_lingitud.pdf http://www.ester.ee/record=b4579694*est

Proceedings of the 3rd Interdisciplinary Cyber Research Workshop 2017 : 8th of July 2017 [Online resource]

2017 http://www.ester.ee/record=b4684355*est https://www.ttu.ee/public/k/kyberkriminalistika_ja_kyberjulgeoleku_keskus/crw2017_final.pdf

Proceedings of the 4th Interdisciplinary Cyber Research Workshop 2018 : 9th of June 2018 [Online resource]

2018 https://www.ttu.ee/public/k/kyberkriminalistika_ja_kyberjulgeoleku_keskus/CRW_2018_lingitud.pdf
https://www.ester.ee/record=b5139478*est

Proceedings of the 5th Interdisciplinary Cyber Research Conference 2019 : 29th of June 2019, Tallinn University of Technology [Online resource]

2019 https://www.ester.ee/record=b5238490*est

REACT: Autonomous intrusion response system for intelligent vehicles

Hamad, Mohammad; Finkenzeller, Andreas; Kühn, Michael; **Roberts, Andrew James; Maennel, Olaf Manuel**; Steinhorst, Sebastian; **Prevelakis, Vassilis** Computers and security 2024 / art. 104008, 17 p. : ill <https://doi.org/10.1016/j.cose.2024.104008>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Recommendations for enhancing the results of cyber effects

Orye, Erwin; **Maennel, Olaf Manuel** 2019 : 11th International Conference on Cyber Conflict : Silent Battle : 28 May-31 May 2019, Tallinn, Estonia : proceedings 2019 / p. 103-121 https://www.ester.ee/record=b5197210*est
https://ccdcoe.org/uploads/2019/06/CyCon_2019_BOOK.pdf <https://doi.org/10.23919/CYCON.2019.8756649>

Remote technical labs : an innovative and scalable component for university cybersecurity program admission

Maennel, Kaie; Kivimägi, Kristian; Maennel, Olaf Manuel; Sütterlin, Stefan; Ernits, Margus Educating Engineers for Future Industrial Revolutions : Proceedings of the 23rd International Conference on Interactive Collaborative Learning (ICL2020). Volume 2 2021 / p. 521-533 https://doi.org/10.1007/978-3-030-68201-9_51 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Security and privacy issues in cloud computing : [brief descriptions]

Abbas, Haider; **Maennel, Olaf Manuel**; Assar, Said Annals of telecommunications 2017 / p. 233-235 <https://doi.org/10.1007/s12243-017-0578-3> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Shortcomings in cybersecurity education for seafarers

Heering, Dan; Maennel, Olaf Manuel; Venables, Adrian Nicholas Developments in Maritime Technology and Engineering : Celebrating 40 years of teaching in Naval Architecture and Ocean Engineering in Portugal and the 25th anniversary of CENTEC, Volume 1 2021 / p. 49–61 <https://doi.org/10.1201/9781003216582>

SIGCOMM '15 : proceedings of the 2015 ACM Conference on Special Interest Group on Data Communication : August 17-21, 2015, London, United Kingdom

2015 <http://dl.acm.org/citation.cfm?id=2785956>

Status Detector for Fuzzing-Based Vulnerability Mining of IEC 61850 Protocol

Visky, Gabor; Lavrenovs, Arturs; **Maennel, Olaf Manuel** Proceeding of the 20th European Conference on Cyber Warfare and Security 2021 / p. 454-461 <https://doi.org/10.34190/EWS.21.007>

Stenmap : framework for evaluating cybersecurity-related skills based on computer simulations

Mäses, Sten; Randmann, Liina; Maennel, Olaf Manuel; Lorenz, Birgy Learning and Collaboration Technologies : Learning and Teaching : 5th International Conference : LCT 2018, Held as Part of HCI International 2018, Las Vegas, NV, USA, July 15-20, 2018 : Proceedings, Part II 2018 / p. 492-504 https://doi.org/10.1007/978-3-319-91152-6_38 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

Towards an open-source intrusion detection system integration into marine vehicles

Visky, Gabor; Khisteva, Dariana; Vaarandi, Risto; Maennel, Olaf Manuel 2024 International Symposium ELMAR Proceedings of ELMAR-2024 : 66th International Symposium ELMAR. 16-18 September 2024, Zadar, Croatia 2024 / p. 263-268
<https://doi.org/10.1109/ELMAR62909.2024.10694518> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Using competency mapping for skills assessment in an introductory cybersecurity course

Mäses, Sten; Maennel, Olaf Manuel; Sütterlin, Stefan Educating Engineers for Future Industrial Revolutions : Proceedings of the

23rd International Conference on Interactive Collaborative Learning (ICL2020). Volume 2 2021 / p. 572-583 https://doi.org/10.1007/978-3-030-68201-9_56 [Article collection metrics at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Using technical cybersecurity exercises in university admissions and skill evaluation

Maennel, Kaie; Mäses, Sten; Sütterlin, Stefan; **Ernits, Margus; Maennel, Olaf Manuel** IFAC-PapersOnLine 2019 / p. 169-174

<https://doi.org/10.1016/j.ifacol.2019.12.169> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)