



Silonosov Alexandr

Date of birth: 18/04/1981 | **Nationality:** Romania | **Gender:** Male | (+46) 0766121516 | aiv@bth.se |
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About me: I am PhD student working on cryptographic agility research frontier. I have 20 years of in-depth, hands-on experience designing and building cloud-based and on-premise information security systems. Last ten years I am working on Authentication, Identity Management and User Behavior Auditing solutions. Right before PhD I have participated in EU funded research projects in the field of maritime cyber security and simulation for small ports. CISSP, MCP certified.

● WORK EXPERIENCE

15/08/2022 – CURRENT – Karlskrona, Sweden

PHD STUDENT – BLEKINGE INSTITUTE OF TECHNOLOGY, Department of Computer Science.

- Research Topic: Cryptographic agility in end-to-end encryption systems. Supervisors: Emiliano Casalicchio, Lawrence Henesey, Anton Borg. Since Aug 2023 participating in DigiTechPort2030 research project, Implementing pilots in Azure cloud by using multi-agent simulation, security-as-a-service, compliance management as a service, privacy for decarbonization management systems cybersecurity strategies evaluation for small Ports.
Research poster: <https://dl.acm.org/doi/abs/10.1145/3638550.3643624>
Personal web page: <https://www.bth.se/eng/staff/alexandr-silonosov-aiv/>

01/08/2019 – 30/07/2022 – Karlskrona, Sweden

TEACHING ASSISTANT, PROJECT ASSISTANT – BLEKINGE INSTITUTE OF TECHNOLOGY

- Since Aug 2020 Project Assistant for Connect2SmallPorts, SECMAR EU research projects, My role is to focus on applied research issues with industry partners at Connect2SmallPorts, SECMAR and CTCC projects. Implementing pilots in Azure by using multi-agent simulation, SaaS, compliance management as a service, IOT cybersecurity strategies evaluation for small Ports. Implemented Digital Compliance pilot SaaS service (<http://digicomp.azurewebsites.net/>). Integrated fleetmon.com data (API for AIS data, Vessel Port Calls) OFAC sanctions list and Compliance knowledge-base with Vendor management system as integrated solution for Port. Developed data models and Know-your-Customer self-submission web application. Defined solution architecture and relationship model between data and business entities. Deployed solution in Azure cloud. Assessing of pilot feasibility with standalone AIS datasets and online AIS data providers such as fleetmon.com and marinetraffic.com. Defining requirements list for vessel risk assessment report based on various data sources. Performed data mining analysis of AIS, OFAC and UN sanction datasets for project feasibility. Participated in written reporting for Connect2SmallPorts, SECMAR projects work packages, partner meetings online and abroad at Germany, Poland, Lithuania, Netherlands. Designed video course “Fundamentals in Cyber-maritime-security” and read online at www.connect2smallports.eu/courses/ involving 3rd party filming agency. Implemented a Drone Automation pilot pre-study with the focus on cyber maritime security in port terminal. Running a pre-study of integrating autonomous flights operations with vessel AIS data providers. Assessing security of drone management systems in cyber-physical systems. Get Drone-Driver license. Implemented port terminal Ro-Ro and Container stack operations simulation with ChessCon software.
- Teaching Assistant on Applied Artificial Intelligence course (DV2557), Updated course assignment for machine learning task with Naïve Bayes method. My tasks includes implementing plagiarism detection scripts, running support sessions, examining assignments and rating students in Canvas system.
- Teaching Assistant on Object Oriented /Programming in C++ (DV1581, DV1537).

- Teaching Assistant on Intelligent Decision Support Systems course (DV2573). Updating course materials and assignments, Participating in assignments examination and helping students.

01/01/2017 – CURRENT – Chisinau, Moldova republic

FOUNDER, CTO, SECURITY ARCHITECT – SAFEJKA SRL

Information security solutions architect. Research and development of data security solutions for end users and SME's;

- Designing information security solutions architecture: two-factor authentication, identity management, end-2-end encryption, public key infrastructure, computer monitoring and attendance systems in on-premise and SaaS deployment type.
- Defining and assuring internal DevSecOps policies and procedures.
- Software development for Windows, Mac OSX, Android; C++/Java/WinAPI/MFC/PHP, PowerShell/Python etc.
- R&D data security protocols: Encryption, Authentication (PKI, OATH, FIDO U2F, OTP, AES, RSA, RFID MIFARE, PKCS#11, etc)
- Code and solution design reviews
- Elaborating specifications for user behavior dataset structure, data collection software and dataset database with compatibility for data analysis and machine learning tools in Jupyter. Designing pseudonymization protocol for personal identifiable information in dataset, to conform with GDPR compliance.

● EDUCATION AND TRAINING

01/09/2018 – 06/06/2020 – Karlskrona, Sweden

MASTER OF COMPUTER SCIENCE: – BLEKINGE INSTITUTE OF TECHNOLOGY

Master thesis: "Identifying the role of remote display Protocol in behavioral biometric systems based on free-text keystroke dynamics". Performed a keystrokes dataset selection, analysis and feasibility of machine learning approach in the problem domain.

www.bth.se

03/09/2020 – 06/20/2020 – Örebro, Sweden

Advanced level Courses: Setting Requirements for Information Security :- Örebro University School of Business

www.oru.se

01/09/2018 – 03/20/2018 – Lulea, Sweden

Advanced level Courses: Strategic security and IT Management, Critical Information Infrastructure Protection :- Luleå University of

Technology www.ltu.se

01/06/2018 – Moldova

Certified Information Systems Security Professional (CISSP) :- ICS Certification Authority

<https://www.isc2.org/Certifications/CISSP>

20/06/1998 – 06/05/2003 – Moldova, Chisinau

B.S. IN INFORMATICS, Faculty of Software Systems Engineering –Moldova State University.

<https://usm.md>

● LANGUAGE SKILLS

Mother tongue(s): RUSSIAN, ROMANIAN

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
SWEDISH	A2	A2	A2	A2	A2
GERMAN	A2	A2	A2	A2	A2
ENGLISH	C2	C2	C2	C2	C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● TECHNICAL SKILLS

Information processing | Cyber-Security | Big Data | Artificial Intelligence | Problem Solving | Optimization
Cloud Computing | Data Privacy
Programming (C++, Java, PHP, C#, Python, VB, JavaScript, HTML, CSS, SQL) | LAN network configuration
Software development for Windows OS, Linux OS, Mac OS, Android OS, IOS,
Machine Learning and Data analysis tools: Jupyter, tensorflow, sklearn, numpy, keras.
Project Management Tools (MS Project,) | Advanced knowledge of working in Microsoft Office, Microsoft Word,
Microsoft Excel, Outlook, Visual Studio. Android Studio, XCode, Eclipse IDE, NetBeans, WordPress CMS,
phpMyAdmin, GitLab, GitHub,
Security protocols: OATH, FIDO, U2F, MIFARE, PKCS#11, KERBEROS, AES, PKI, RSA.
Cloud based solutions: AWS, Azure, Google Cloud, Dockers, SDN,
Industry data standards: AIS, BLE beacon, RFID technology EM, HIDProx, Legic, Mifare.
Compliance: ISO 27001, GDPR, FIPS. PCI-DSS, HIPAA

● PUBLICATIONS

Conference papers:

Alexandr Silonosov, Lawrence Henesey, "Telemetry data sharing based on Attribute-Based Encryption (ABE) schemes for cloud-based Drone Management system.", ACM International Conference Proceeding Series, Association for Computing Machinery (ACM), 2024

Alexandr Silonosov, Lawrence Henesey, Oleksii Baranovskyi, "Poster", HOTMOBILE 2024 - Proceedings of the 2024 25th International Workshop on Mobile Computing Systems and Applications, Association for Computing Machinery (ACM), 2024

On keystroke pattern variability in virtual desktop infrastructure (2020)

<https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1560579&dswid=9398>

Article: Creating Web-style GUI in MFC applications (2004)

<https://www.codeproject.com/Articles/7710/Creating-Web-style-GUI-in-MFC-applications>