Darius Galis

PUBLICATIONS

[2024] **Realtime Polymorphic Malicious Behaviour Detection in Blockchain-Based Smart Contracts**

Reference: D. Galis, C. Pungilă, and V. Negru, "Realtime Polymorphic Malicious Behaviour Detection in Blockchain-Based Smart Contracts", Logic Journal of the IGPL, vol 32, Issue 2, April 2024, pp 210–223

[2022] **A Fast NDFA-Based Approach to Approximate Pattern-Matching for Plagiarism Detection in Blockchain-Driven NFTs**

Reference: D. Galis, C. Pungilă, and V. Negru, "A Fast NDFA-Based Approach to Approximate Pattern-Matching for Plagiarism Detection in Blockchain-Driven NFTs". DaWaK 2022. Lecture Notes in Computer Science, vol 13428. Springer

[2022] **A new high-performance approach to approximate pattern-matching for plagiarism detection in blockchain-based non-fungible tokens (NFTs)**

Reference: arXiv preprint

[2022] **Using N-Gram Variations in Static Analysis for Malware Detection**

Reference: M. Radovancovici, D. Galis, and C. Pungilă, "Using N-Gram Variations in Static Analysis for Malware Detection", 24th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), 2022

[2022] **A Practical Analysis of Techniques for Minting Genetic Information as NFTs in Blockchain Technology**

Reference: M. Radovancovici, D. Galis, and C. Pungilă, "A Practical Analysis of Techniques for Minting Genetic Information as NFTs in Blockchain Technology", 24th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), 2022

[2018] **Survey on Feasibility of Pattern Matching Techniques In Heterogeneous Architectures for Bioinformatics**

Reference: C. Pungilă, D. Galis, and V. Negru, "Survey on Feasibility of Pattern Matching Techniques In Heterogeneous Architectures for Bioinformatics", SYNASC, 2018, pp. 368-375

[2018] **Optimizing Pattern-Matching for Memory-Efficient Heterogeneous DNA Processing in Bioinformatics**

Reference: C. Pungilă, D. Galis, and V. Negru, "Optimizing Pattern-Matching for Memory-Efficient Heterogeneous DNA Processing in Bioinformatics", IEEE 12th International Symposium on Applied Computational Intelligence and Informatics (SACI), 2018, pp. 1-5

PROJECTS

[01/11/2023 – 30/11/2023] **UVT.EDU4Cybersecurity - Educație, performanță, competențe și colaborare în securitate cibernetică**

Cybersecurity expert

[04/07/2023 – 31/07/2023]   **UVT.EDU4Cybersecurity - Educație, performanță, competențe și colaborare în securitate cibernetică**

Cybersecurity expert

ORGANIZING COMITEE

[29/06/2024 – 30/06/2024]   **CyberHack UVT 2024**

https://cyberhack.day/

[12/06/2023 – 13/06/2023]   **CyberHack UVT 2023**

https://www.info.uvt.ro/cyberhack-uvt/

PATENTS

[29/04/2022 – Current]   **METODĂ ŞI SISTEM BAZATE PE TEHNOLOGIA BLOCKCHAIN PENTRU RAPORTAREA REZISTENŢEI LA PREPARATELE ANTIMICROBIENE**

Patent No: RO135681

International Classification (IPC): G06F16/23; G06F21/64; G16H10/60; G16H15/00

HONOURS AND AWARDS

[15/11/2023]   **Scholarship for Excellence in Education for the "Blockchain Technology Between Ideology and Challenge" program.**
Awarding institution: ANIS (Employers' Association of the Software and Services Industry)

WORK EXPERIENCE

[2023 – Current]   **Assistant lecturer**

West University of Timisoara

■ **Operating Systems**: Supported students in understanding core operating system concepts, including process management, memory management, and system architecture.

■ **Algorithms and Data Structures**: Guided students through algorithmic problem-solving techniques, emphasizing data structures, efficiency, and algorithm design.

■ **Security and Cryptography**: Assisted in teaching cryptographic methods and security protocols, focusing on encryption, authentication, and secure communications.

■ **Cryptography and Information Security:** Provided students with insights into advanced cryptographic techniques and the fundamentals of information security practices.

■ **Blockchain Technology: Between Ideology and Challenge**: Engaged students in discussions and implementations about blockchain technology's foundations and real-world challenges.

■ **Applications, Approaches, and Challenges in Cybersecurity in the Modern Digital Era**: Helped students explore modern cybersecurity threats, defence mechanisms, and emerging challenges in the digital landscape.

■ **Collective Project:** Mentored student teams in collaborative projects, fostering teamwork, critical thinking, and practical application of technical skills.

[2022 – 2024]   **Technical lead**

Scitech Software Ltd.

■ **Architectural Design and Technical Oversight**: Oversaw the design and implementation of software architecture, driving technical excellence, scalability, and system reliability.

■ **Mentorship and Skill Development**: Mentored junior developers, fostering a collaborative team environment and promoting continuous learning and development.

- **Quality Assurance and Performance Optimization:** Ensured the highest quality standards by implementing best practices in code reviews, testing, and performance optimization.

[2018 – 2023] **University teaching assistant**

West University of Timisoara

Country: Romania

[2016 – 2022] **Compiler Developer**

CyberThor Studios

- **Full-Stack Development**: Designed, developed, and maintained both front-end and back-end components of software applications (compilers – **GCC/LLVM**, debuggers – **GDB**, APIs – **Eclipse IDE integration**, building, testing and automatization procedures), ensuring thorough technical documentation and robust system performance.

- **Agile Development**: Actively contributed to Agile workflows, participating in sprint planning, daily stand-ups, and iterative development cycles to deliver high-quality software on time.

- **Code Optimization and Performance Tuning**: Improved application performance by optimizing the generated code size, reducing execution times, and ensuring efficient use of resources:

Eg: https://gcc.gnu.org/legacy-ml/gcc-patches/2020-01/msg01319.html

https://gcc.gnu.org/pipermail/gcc-patches/2020-August/552146.html

- **Collaboration and Teamwork**: Worked closely with cross-functional teams including designers, QA engineers, and product managers to deliver innovative and improved compiler solutions.

- **Debugging and Troubleshooting**: Diagnosed and resolved software defects and performance issues, enhancing the stability and reliability of the compilers.

- **Technology Stack:** Utilized modern technologies [**GCC/LLVM/GIT/GitLab/Docker,etc**], ensuring best practices and maintaining up-to-date technical skills.

EDUCATION AND TRAINING

Ph.D. in Computer Science: High-Performance Approximate Pattern-Matching for Bioinformatics and Cybersecurity

[2019 – 2023]

West University of Timisoara

| **Level in EQF:** EQF level 8

[2021 – 2022] **Post-graduate degree: Entrepreneurship in Blockchain**

West University of Timisoara

Country: Romania | | **Level in EQF:** EQF level 7

Master's degree: Analysis of algorithms used in heterogeneous CPU/GPU systems for DNA template detection

[2017 – 2019]

Politehnica University of Timisoara

Country: Romania | | **Level in EQF:** EQF level 7

Bachelor's degree: Development of compilers for high-performance embedded platforms

[2013 – 2017]

Politehnica University of Timisoara

| **Level in EQF:** EQF level 6

[2009 – 2013] **High School diploma**

"Moise Nicoară" High school

Country: Romania | | **Level in EQF:** EQF level 4

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

English

LISTENING B2 **READING** B2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

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

DIGITAL SKILLS

My Digital Skills

ECDL Cerificate

Communication skills

Effective Presentation | Excellent public speaking in a professional and confident manner | Clear and concise | Good Explainer

Job-related skills

Proficient in c | Linux (Terminal Commands, Bash/Shell) | Competent in Java programming | Competent in Python