

Universitatea Politehnica Timișoara
Departamentul Calculatoare și Tehnologia Informației

Nr. 33084/08.12.2023

**Cerere depunere candidatură MEMBRU ÎN CONSILIUL
DEPARTAMENTULUI/CONSILIUL FACULTĂȚII/SENATUL UNIVERSITĂȚII
POLITEHNICA TIMIȘOARA**

Subsemnatul/subsemnata Bocan Valer, cadru didactic titular în Universitatea Politehnica Timișoara, Departamentul Calculatoare și Tehnologia Informației prin prezenta îmi depun candidatura pentru mandatul de **membru în**

<input checked="" type="checkbox"/>	Consiliul Departamentului <u>CTI</u>
<input checked="" type="checkbox"/>	Consiliul Facultății <u>AC</u>
<input type="checkbox"/>	Senatul Universității Politehnica Timișoara

În conformitate cu Regulamentul Universității Politehnica Timișoara privind constituirea și alegerea structurilor și funcțiilor de conducere pentru legislatura 2024–2029, anexez următoarele documente:

- Curriculum Vitae;

Acord privind prelucrarea datelor cu caracter personal:

Cunoscând faptul că datele cu caracter personal pe care dosarul meu de candidatură le conține, vor fi prelucrate de Universitatea Politehnica Timișoara în procedura de alegeri, conform Regulamentului Universității Politehnica Timișoara privind constituirea și alegerea structurilor și funcțiilor de conducere pentru legislatura 2024 - 2029, declar expres că sunt de acord cu prelucrarea acestor date, inclusiv cu postarea lor în mediul online și la avizier (a CV-ului și planului de management, cu anonimizarea semnăturii, respectiv a adresei, număr de telefon, data nașterii, e-mail trecute în CV) și menținerea acestora până la încheierea proceselor de constituire a structurilor de conducere conform calendarului, Anexa nr. 1 la Regulament. De asemenea sunt de acord cu transmiterea acestor date ministerului de resort și altor instituții și autorități publice abilitate. Declar expres că sunt de acord ca dosarul de candidatură în original să poată fi consultat de membrii comunității academice ai Universității Politehnica Timișoara, fără ca aceștia să poată copia/fotografia documentele aflate în dosarele originale.

Data

6.12.2023

Nume prenume, semnătura





Valer Bocan

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ABOUT ME

Software engineer with a demonstrable history and experience in information technology, with emphasis on Secure Development Lifecycle (SDL) and Threat Modeling. I am experienced with C#, Rust, Go, F#, Vue.js, Forth, Android Development, distributed architectures and cloud, Domain Driven Design (DDD), Enterprise Engineering and many more technologies. I hold a PhD in computer science from the Politehnica University of Timișoara and the Certified Secure Software Lifecycle Professional (CSSLP) from ICS2.

WORK EXPERIENCE

[01/10/2020 – Current]

Lecturer

Politehnica University of Timișoara

City: Timișoara

Country: Romania

I teach various computer-related courses:

- Application of Document Databases (MongoDB)
- Advanced Technologies for Application Development (Rust & Go)
- Git versioning system, containerization of applications
- Software Project Management

[31/01/2018 – Current]

Chief Technology Officer

Storya Soft

City: Timișoara

Country: Romania

I am the co-founder of a tech company, delivering software development services to important players in the telecom industry. The main areas of focus are microservice architectures with document database driven backend, as well as performing security audits and analysis on existing codebase.

[30/04/2011 – 31/01/2019]

Software Architect

Canon România (ex. Oce Software România)

City: Timișoara

Country: Romania

The main product that I worked on was a print order management system which consisted of several distributed entities such as the central server, the operator console, the web server, etc. For historical reasons, the product was somewhat monolithic, slow to grow and accumulated quite some technical debt. I was tasked to come up with a modern and fresh architecture and for that I chose to decouple temporally and spatially the components of the product into microservices that communicated via a messaging infrastructure.

Also, in the context of this product I designed and implemented an enterprise engineering module that allowed quick system reconfiguration using proprietary DSL.

Also, the newest version of the product is a complete rewrite based on cloud technologies (web apps, storage, logic apps, service bus and a few other related services), currently on Azure.

I was part of the multi-national working group that defines the Océ Technical Standard (OTS) related to software security of company products. I proposed the introduction of formal threat analysis of products at all stages of development with everything that it implies, such as data flow discovery, determining and ranking threats, attack trees and mitigation techniques.

[30/09/2003 – 30/04/2011]

Software Analyst

Nokia (ex. Alcatel-Lucent)

City: Timișoara

Country: Romania

The main responsibility while at Alcatel-Lucent was to bring innovation to the products we had in our portfolio and ensure a constant growth in team expertise. Some of my accomplishments along the years spent with the company are:

- I architected from the ground up a tool for GSM performance analysis (called AnaQoS), which takes as an input raw files from the GSM central management computer (OMC). The tool was used by hundreds of Alcatel-Lucent radio network engineers on all continents. The application later became multiprocessor aware and that gave it a boost of performance using the same commodity hardware.
- I was part of the working group which designed and developed AMT, a tool for architecture management of GSM and various other types of networks. The tool was able to graphically represent a network with its components and was able to estimate the transport capacity in various scenarios.
- I literally brought .NET development into Alcatel-Lucent Romania. I held regular meetings with my fellow coworkers and peers to present the latest available technologies and security procedures, plus I identified areas where such things could be applied in order to shorten development cycles, improve efficiency and give coworkers a sense of accomplishment.
- On the research side, I wrote and published a study on the vulnerability of GSM networks to denial of service attacks, findings which were initially alleged by the Alcatel University staff as being impossible. They later acknowledged the possibility of attack.

I was a member of the Alcatel-Lucent Technical Academy (ALTA), an organization inside the company which comprised individuals that had a significant impact and contribution for the development of Alcatel-Lucent.

[28/02/1999 – 30/09/2003]

Software Developer

Computer Voice Systems

City: Chicago

Country: United States

I was responsible for various software development tasks on multiple projects on customer care.

EDUCATION AND TRAINING

[30/09/2020 – 29/09/2023]

Certified Secure Software Lifecycle Professional

International Information System Security Certification Consortium (ISC2)

www.isc2.org

City: Thessaloniki

Country: Greece

Field(s) of study: Information and Communication Technologies: *Information and communication technologies not elsewhere classified*

Final grade: Certified Secure Software Lifecycle Professional no. 822155 **Valid until:** 29/09/2023

Link: <https://www.youracclaim.com/badges/2ec491a4-0760-4ccf-9861-adeee8f5266f>

[31/08/2000 – 09/06/2009]

PhD in Computer Science

Universitatea Politehnica Timișoara www.upt.ro

Address: Piața Victoriei nr. 2, 300006, Timișoara, Romania

Field(s) of study: Information and Communication Technologies: *Information and communication technologies not elsewhere classified*

Final grade: Doctor

[30/09/1994 – 31/05/1999]

Bachelor of Science

Universitatea Politehnica Timișoara www.upt.ro

Address: Piața Victoriei nr. 2, 300006, Timișoara, Romania

Field(s) of study: Information and Communication Technologies: *Software and applications development and analysis*

Final grade: Inginer

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

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

PUBLICATIONS

[2014] **Printing Infrastructure Discovery through Adaptive QR Codes**

International Conference on Artificial Intelligence and Software Engineering (AISE2014), Phuket, Thailand

[2012]

Digital Identity and Access Management: Technologies and Frameworks (pp. 1-498). doi:10.4018/978-1-61350-498-7

Author of chapter 11.

[2009]

Contributii la cresterea disponibilitatii, scalabilitatii si securitatii sistemelor de comunicatie

Reference: Teză de doctorat

[2008]

SCADDIC: The Implementation and Performance of a Scalable and Secure Architecture for Digital Content Distribution

Reference: Communications 2008 - Bucharest, Romania

[2006] **Threats and Countermeasures in GSM Networks**

Reference: Journal of Networks, Academy Publishers, ISSN 1796-2056

- [2006] **Scalable and Secure Architecture for Digital Content Distribution**
Reference: SoftCOM 2006 - International Conference on Software, Telecommunications and Computer Networks, Split
- [2006] **Mitigating Denial of Service Threats in GSM Networks**
ARES 2006 - The First International Conference on Availability, Reliability and Security, Wien, Austria
- [2005] **Adaptive Threshold Puzzles**
EUROCON 2005 - The International Conference on "Computer as a tool", Belgrade, Serbia and Montenegro
- [2005] **Towards DoS-resistant Single Sign-On Systems**
EUROCON 2005 - The International Conference on "Computer as a tool", Belgrade, Serbia and Montenegro
- [2005]
Sisteme Single Sign-On sub atacuri Denial-of-Service. Studiu de caz: Proiectul Liberty Alliance
Ph.D. Report no.3, Politehnica University of Timisoara
- [2004] **Studiu asupra nivelului de siguranta oferit de protocoalele de autentificare**
Ph.D. Report no.2, Politehnica University of Timisoara
- [2004] **Developments in DoS Research and Mitigating Technologies**
CONTI 2004 - Periodica Politehnica, Transaction on Automatic Control and Computer Science Vol. 49 (63), 2004, ISSN 1224-600X
- Security and Denial of Service Threats in GSM Networks**
CONTI 2004 - Periodica Politehnica, Transaction on Automatic Control and Computer Science Vol. 49 (63), 2004, ISSN 1224-600X
- [2004] **Threshold Puzzles. The Evolution of DoS-Resistant Authentication**
CONTI 2004 - Periodica Politehnica, Transaction on Automatic Control and Computer Science Vol. 49 (63), 2004, ISSN 1224-600X
- [2002]
Stadiul actual al dezvoltarii sistemelor de securitate pentru retele de calculatoare de inalta siguranta
Ph.D. Report no.1, Politehnica University of Timisoara

PROJECTS

IPFees

IPFees is a Domain Specific Language (DSL) for computing intellectual property fees. The language allows expressing the verbosity of IP documents of various countries in a formal way, allowing the user to perform a computation in seconds rather than days on end.

Link: <https://ipfees.storya.ro>

Remote Car Surveillance

I designed and implemented from scratch a .NET-based system for monitoring a fleet of vehicles, complete with a multi-threaded server implemented as a Windows service, automatic decoding of GPS device sentences, location history, evaluation of driving style based on historical data, fleet self-programming, etc.

This project has recently been rewritten in Go and it features a remarkable speed increase. An ARM7-based server with 2GB of RAM is able to handle more than 30000 simultaneously transmitting GPS devices with approx. 85% CPU utilization.

Link: www.undeemasinamea.ro

Delta Forth .NET - world's first Forth compiler for the .NET platform

Forth is a versatile stack-based language and Delta Forth .NET is the world's first Forth compiler for the .NET platform.

The compiler is able to generate IL code that can interoperate with other .NET languages. This product is mentioned on the Microsoft intranet and various other sites (asp.net, gotdotnet.com, windowsforms.net), as well as in the book *.NET Framework Essentials, Second Edition, O'Reilly & Associates*. It was also mentioned in the Transform online magazine. Tim Sneath and Brad Merrill of Microsoft have expressed their support and consideration for the development of the Delta Forth .NET system.

Board generator for Airplanes game

Airplanes is a strategy game between two players, very popular in Romania in the 70s and 80s. With the advent of personal computers and game consoles, the popularity of paper games has declined, but their charm is unmatched in the family, on hikes and whenever we want to escape from the excessively technological world. The less pleasant part of the paper game is the manual preparation of the boards, which consists of drawing the grid, the coordinates and the correct placement of the planes on the grid. This site caters to those who want to play Airplanes by automatically generating a variety of game boards. All the players have to do is enjoy their time together.

Link: www.avioanele.ro

