MARKO **TRIČKOVIĆ**

Leskovac, Ančiki, Zaplanjska 101 · +381641261851

Email · LinkedIn · GitHub

Final year student of **"Computers and Informatics"** from the University of Niš. Started working as **"Technical Support"** for a cloud hosting company in the last semester, and was promoted to **"System Administrator"** or by the popular name **"DevOps"** by constantly improving and showing interest. I am looking for new opportunities in the industry where I can continue improvement of my skills and personal development.

EXPERIENCE

MARCH 2016 – OCTOBER 2017

SYSTEM ADMINISTRATOR, ATOMIA | NIŠ

1. Performed IIS upgrade from Windows Server 2008 to Windows Server 2012 for a cluster consisting of 2 web servers. Since the shared configuration for IIS between versions 7.5 and 8.5 is not quite compatible, I was comparing all the IIS modules for each individual website, to correct obsolete modules (more than 1000 modules).
2. Responding to clients' requests for information about software releases, communicating with the product team about bugs and release updates, using SQL to search for users whose order is not provisioned, searching for scheduled emails in the database, etc.
3. Monitoring each environment (test, stage, production) using Nagios for performance, database maintenance (log shrinking for SQL server when the partition is overfilled, clearing services holding virtual IP addresses from the database because the service which was running is not present anymore), etc.

AUGUST 2021 – FEBRUARY 2022

BACK-END WEB DEVELOPER, NEARSHORE | NIŠ

1. Writing back-end library for the personally identifiable information (PPI), writing unit tests for the library, and testing the library on the platform installed inside the Docker container.
2. Writing integration tests for the application using "Laravel" framework.
3. Learning the "Laravel" framework to get to speed with work on the integration testing.

EDUCATION

JUL 2012

STUDIED AT FACULTY OF ELECTRONIC ENGINEERING, DEPARTMENT OF **"COMPUTERS AND INFORMATICS"**

Learned database systems, SQL programming, object-oriented programming, computer architecture and organization, program compilers, computer graphics, programming languages, C and C++, Java, PHP, and JavaScript. Gained research skills on a topic in the field of informatics – learned programming in C on Linux operating system and learned advanced algorithms.

JUNE 2008

HIGH SCHOOL DIPLOMA "COMPUTER ELECTROTECHNICIAN",
ELECTROTECHNICAL SCHOOL "RADE METALAC" IN LESKOVAC

I was practicing programming on the computer with 2GHz processing power and 1GB of RAM. I was excellent at programming. Practiced mathematics. Made a presentation for the school day – for a quiz of general knowledge (broadcasted on a local TV program). Made an X-O game as a graduate project (using VB 6.0). The second subject "Computers" for my graduation project was "Installing Ubuntu operating system on school computer". During, the project defense – explained the steps needed to "install Ubuntu OS", "install OS in dual boot alongside Windows", and "install programs on the Ubuntu" and showed how to use it.

SKILLS

- Able to communicate effectively with a wide range of people, by showing interest and carefully listening to their needs
- Strong presentation and demonstrating skills; Confident, articulate and professional speaking abilities
- Can read, write and converse fluently in English

- Desktop Programming (C/C++, C#, XAML)
- Web Programming (PHP, JavaScript)
- Web (HTTP, REST, SOAP)
- Structured data (XML, JSON, YAML)
- RDBMS (MSSQL, MySQL, PostgreSQL)
- Operating Systems (Windows, Linux, Android)
- Version control systems (Git, SVN)

ACTIVITIES

Visited Balkan Computer Congress (in 2016, and 2017)
My friend from Belgrade, both software developers (programmers), we were going to the same high school in Leskovac, in the same department. Both of us are very much interested in object-oriented programming, software design, security of software systems, etc. We spent a few days in "Novi sad" during this event, listening to speakers showing their experience, wisdom, and knowledge. Also, we immersed ourselves a little in CTF (capture the flag) hacking challenges – all in good company and with ethical ideas. We didn't win the competition, but still, it was quite an interesting experience. Luckily, he knew the winner, and he introduced me to him, later winner explained to us some of the tricks for challenges that were too hard (like printf function vulnerability, which can be found on the Internet now). One more interesting fact, a friend just started working in the MDCS (Microsoft) – so say, I was really learning about many things. I have also stayed in Belgrade at his place after the congress was over both times – we discussed experiences, knowledge, and most importantly programming skills.

RAF Challenge 2011 awarded 3rd place for implementing desktop application | The School of Computing Belgrade, Serbia
Developed a password manager "Info Pass" during winter break, using VB 6.0 to implement the app and installation bundle. Implemented Caesar cipher for password protection and character insertion to create a single-line string that can be stored using the Windows registry. Received a mobile phone as a reward. Article about the competition: https://raf.edu.rs/rafchallenge/istorijat-takmicenja/2610-raf-challenge-2011

Best Paper Award for "Electronic Propeller Clock" | IEEESTEC 3rd Student project conference (2010) Niš, Serbia
Presented a high school project at the "Faculty of Electronic Engineering". Implemented PCB for the base and the propeller boards. Involved in the process of ordering components. Worked to assemble the clock. And worked on the programming for the microcontroller responsible for diode flickering to give

POV (persistence of vision) to the observer. As a team of 4 students, we successfully built an electronic propeller clock.

PROFESSIONAL SKILLS

- Linux (OpenSUSE, Ubuntu, Arch, CentOS, LFS, Mandriva, Mint)
- Windows Server (2008, 2012, 2016)
- SQL Server (2012, 2017, 2019)
- Web Servers (IIS, Apache, NGINX, NodeJS)
- Virtualization (VMWare, VirtualBox, Docker)
- Networking Infrastructure (IP, Routing, Load balancing, DNS, Firewall)
- Monitoring (Nagios)
- Web Design (HTML/CSS, JavaScript, NodeJS, ReactJS, KnockoutJS)
- PHP Frameworks (Magento, Laravel, PHPUnit)
- Testing Web Application and finding bugs
- Bug collecting Web Application (Bugzilla)
- Help-desk ticketing system
- HR tools (Bamboo)
- Knowledge and experience with agile methodology
- Google Cloud, Google Docs, Gmail, Outlook
- Word, Excel, Power-point
- Puppet code for automation scripting
- Visual Studio (2017, 2019), Visual Studio Code, PHPStorm, Android Studio
- Version control (GIT, SVN)

OTHER RELEVANT SKILLS

- Driving License (C category)

PROJECTS FROM MY ARCHIVE

- Created "Calculator of resistance" – using Visual Basic 6.0, GUI application with an image of resistor (electrical component). Users can select colors on the resistor and press the button "calculate" and the program calculates the resistance in ohms. And vice-versa. The application can convert ohms to colors.
- Created the game of "X-O" – using Visual Basic 6.0 for my diplomatic project. The game could be played with a computer or a real player. Buttons are positions for "X" or "O", users can select who is first in the game and the result is displayed on the screen when the game is finished.
- Created console game "Pacman" with ASCII characters (in C++), a simple idea, and an interesting game. ASCII characters can be manipulated to draw walls, the dots are food and Pacman is the letter "C" and the letter "O". With the timer and arrow command Pacman can go in all four directions and eat the food. The game has only one level. The game consists of 3 classes, a class for "Board", a class for "Pacman" and class for "Control".
- 2D Game Engine (in C++) with more than 10 classes, using parsing of XML to describe figure (or character, and eventually game levels). Animated one character "chopper" which the user can move

on the screen. I used QT IDE to create this example. The design that I adopted was from a book that I found online.

- Created a version of Linux from scratch. Challenge, consisted of compiling programs and "headers" for my own Linux distribution. To describe in short, I compiled programs, first, to produce a usable "compiler", second, I used a "compiler" to make more programs until the system is able to boot. And the third stage, when the system booted, I was able to use the "cross-compiler" already built to compile or write my own programs. I stopped at that level, there are further stages (creating desktop environments, programs and services for OS, and so on).

- Developed "Operating systems", called "Hy-OS" in short for "Hypothetical Operating System". A little inspired by Linux OS, a little inspired by a subject from faculty "Hardware Design" – where the design of a hypothetical computer is being discussed. Code description and code itself can be seen on GitLab Code Link, Total: 47 files, 1393 codes, 230 comments, 391 blanks, all 2014 lines; Language: C.

- An application for Android called "My Places", is a client application using Google's Service "Firebase" on the back-end to store information that the user enters. The application has 8 classes, it can store the favorite place which the user chooses on the map, and it can show a list of visited locations in the new window (intent).
Code Link Total: 47 files, 1393 codes, 230 comments, 391 blanks, all 2014 lines; Languages: Java, XML.

- Practice data structures development, and learned algorithms, here is the code:
Code Link 1, *Total: 5 files, 175 codes, 46 comments, 31 blanks, all 252 lines; Languages: Java, Python*
Code Link 2, *Total: 18 files, 962 codes, 25 comments, 143 blanks, all 1130 line; Language: Java*
Code Link 3, *Total: 2 files, 28 codes, 0 comments, 2 blanks, all 30 lines; Language: C#*
Code Link 4, *Total: 7 files, 313 codes, 94 comments, 57 blanks, all 464 lines; Languages: C++*
Code Link 5, *Total: 4 files, 177 codes, 12 comments, 37 blanks, all 226 lines; Languages: Java*
Code Link 6, *Total: 4 files, 400 codes, 65 comments, 89 blanks, all 554 lines; Languages: C#*

- Practiced coding with JS and React - small "X-O" game,
Code Link, *Total: 7 files, 277 codes, 38 comments, 38 blanks, all 353 lines; Languages: JavaScript, CSS.*

- Practiced development with Win32 (drawing windows, user input, and shapes).
Code Link. *Total: 10 files, 652 codes, 13 comments, 138 blanks, all 803 lines; Languages: C++, XML.*
Imagined program for verifying file downloads, it is possible to add a context menu entry in windows – but this already exists, this is only an example
Link Code, *Total: 7 files, 167 codes, 15 comments, 54 blanks, all 236 lines; Languages: Java.*

- Read about GUI programming in Python Empty Code Link.

- Imagined program like "grep" on Linux, here is "template" or early development of the program
Code Link, *Total: 6 Files, 340 codes, 59 comments, 39 blanks, all 438 lines*

- Lab practice IP Routing, and IPv6, preparation for Cisco Certification, Packet Tracer Labs.

- VPN project for Linux server, I made an example of a VPN server on AWS for blocking ads VPN Configuration and secure DNS for browser, similar to this feature which browsers now support Firefox configuration (Google Chrome too). Now, there is a better solution for private browsing, e.g., "Cloudflare WARP".

- Recently started development of my website. It's still in progress, it will have projects, books, events, interests, and so on.
PersonalWebsite.

- Using UML to design databases, design use case diagrams, and UML to design desktop applications. The system is designed for collecting, preserving, and displaying information about patients in "Hospitals", treatments, doctors, and nurses. Once the design was complete, we split work into classes and each of us was working on 1-2 classes. The technology used to develop this system is Visual Studio 2015 and SQL server 2012. Finally, we presented this project in front of a jury (2-3

professor assistants). Using this software engineering system, and principles in development which we explained (as a team), we completed a project for the exam. And thus, completed the exam.

- Programmed in assembler language, working with string arrays, working with buffered and unbuffered access to file – for practice, using a book as a guide to learn about specifics of processor architecture.

- Implemented REST API service in C# .NET for "Adventure Works Customers". And implemented REST API Client which is implemented in the desktop application "Customers". Adding, updating, and deleting data using REST web service is possible. Web service is made using Entity framework, with a method generating code from a database model. Adventure Works is an available database from the Microsoft website, which can be downloaded for learning and making projects. In Visual Studio 2017 it is possible to make a web service in ASP.NET from a model of the entity generated by Entity.
  Link Code Service, Link Code Client, *Total: 80 files, 18640 codes, 5178 comments, 3850 blanks, all 27668 lines*

- Searching for the specified files on the system (e.g., disk) details and code on the following, the idea is to practice Unit testing development, which is new to me
  Code Link, *Total: 3 files, 107 codes, 17 comments, 18 blanks, all 142 lines, Languages: PHP, JSON.*

- Application for students who are in elementary school. Students can use an application to input their daily time schedule and get statistics about their spent time (homework, TV, games, family, friends). Data that a student enters in the application is also saved in the MySQL database. It can be used to show all the students who entered their data.
  Code Link, *Total: 12 files, 591 codes, 148 comments, 93 blanks, all 832 lines, Languages: PHP, Framework: PHPUnit.*