Aleksa Marušić

Software Engineering Student

aleksamarusic@gmail.com
https://www.linkedin.com/in/aleksamarusic/
https://github.com/aleksamarusic

Work Experience

2016 – · · · · · **Student Teaching Assistant.** *University of Belgrade.* My responsibilities includes preparing homework assignments and helping organizing laboratory exercises as well as some aspects of student assessment on various subjects.

2017 – · · · · · **Chief of Machine Learning.** *LazyBrain.* As a member of Executive board, I have part in making every valuable decision of the LazyBrain organization. As a Chief of Machine Learning Department I am leading ML team which aim is to improve ML awareness and educate people about in this area as well as to use ML by developing open source solutions for real life problems.

2017 – 2017 **Software Engineering Intern.** *Teodesk.* I have been working on building an AI chatbot for Teodesk application by using Natural Language Understanding.

2016 – 2016 **Technical support.** *Microsoft Serbia.* I was part of the technical support team on Sinergija 16 conference organized by Microsoft Serbia.

Education

2015 – · · · · **B.Eng. in Software Engineering, University of Belgrade, Serbia.**
GPA: 9.33 / 10.0
Coursework: Calculus, Pogramming 1 & 2, Algorithms and Data Structures 1 & 2, Computer Architecture, Databases 1, Object-oriented Programming 1 & 2, Operating Systems 1 & 2, Neural Networks, Artificial Intelligence, Principles of Software Engineering

2011 – 2015 **Mathematical Grammar School, Belgrade, Serbia.**
About: The Mathematical Grammar School (MG) is a unique school in Serbia, specialized for students talented in mathematics, physics and computer science, aged 13-18. The School has been granted the HIGH NATIONAL DISTINCTION status by Serbian government and also holds a membership at the European Council for High Abilities (ECHA) since 1994.

Projects & Publications

Projects

2018 **Realization of complete computer system - processor, GPU and keyboard interface on Cyclone III FPGA chip (Quartus 13.1)** The project implements communication of processor and various controllers across the bus. Also, project includes realization of simple game (known as Snakes) in assembly for the implemented processor. This was a team project (team of 5).

Inside Out (CodeIgniter, ORM, HTML, CSS, JavaScript, JQuery, Ajax, MySQL, Bootstrap) The ultimate web application for improving company's time and resource management. Easy distribution of employees into teams, giving them tasks and tracking teams' progress. This was a team project (team of 4) and it had many phases from designing a prototype to testing and validating application.

Letter recognition (Python) Programming and training feed forward neural network in Python programming language that should recognize and classify letters of English alphabet. The data set used was Letter Recognition Data Set from Machine Learning Repository of University of California.

Projects & Publications (continued)

2017 **Nim Game (C#)** Implementation of a Nim game, including 3 levels of computer player (bots) with minimax and alpha-beta prunning algorithms. Also, implementing a graphical part (UI) of application.

Thread Management Subsystem (C++, 8086 assembly) Implementation of a kernel subsystem for preemptive multi-threading for Intel 8086 CPU with time sharing on a single CPU that supports context switching, event handling and implementation of semaphores.

2016 **Program for encryption and decryption of electronic mail (C lang.)** Implementation of Blowfish encryption (and decryption) algorithm and working on graphical part (UI) of the application.

2015 **License Plate Detection (MATLAB)** Implementation of algorithms for License Plate Extraction, Character Segmentation and Character Recognition.

Publications

2012 **"Women More Educated Not More Equal"** Paper published in the "Women Empowerment – The Road Ahead" journal within the "Community Development & Leadership Summit 2012" in New Delhi, India

Skills

Languages	Serbian - native. English - strong reading, writing and speaking competencies. Chinese and German - very basic knowledge.
Programming	C, C++, C#, Python, Java, Pascal, Prolog (Basics), Assembler, PHP, MATLAB, SQL, HTML, CSS, JavaScript
Technologies	CodeIgniter, Laravel, LabView (Basics), JQuery, Ajax, Bootstrap, MySQL, JMS, JDBC, JPA
Programs	NetBeans, Visual Studio, Eclipse, PyCharm, PhpStorm, StarUML, MySQL Workbench, PhpMyAdmin, SQL SMS, LabView
Operating sys.	MS Windows, Linux

Awards and Achievements

2018 **Second place on EESTech Challenge Final Round hackathon.** Competition is organized by EESTEC LC Novi Sad. The proposed problem for actually taken from kaggle.com website - Instacart Market Basket Analysis competition. The data set for this competition was a relational set of files describing customers' orders over time. The goal of the competition was to predict which products will be in a user's next order. The data set was anonymized and contained a sample of over 3 million grocery orders from more than 200,000 Instacart users.

First place on EESTech Challenge Local Round hackathon. Competition is organized by EESTEC LC Belgrade. The task was to implement web crawler and web scraper and, using them, download data from over 20 000 web pages and analyze it. We were the only team that did the given task completely.

2017 **Sixth place on EESTech Challenge Final Round hackathon.** Organized by EESTEC LC Zürich. My team and I had a task to design and implement a solution for detection and recognition of specific set of cows on the picture, with provided very limited data set (10 pictures for every cow (12 of them) that should be recognized).

First place on EESTech Challenge Local Round hackathon. Competition is organized by EESTEC LC Belgrade. The proposed problem was to implement an algorithm for face recognition and then detection on a very specific training data set.

Awards and Achievements (continued)

2016 — **First place on CodeBeyond hackathon.** Winning the CodeBeyond hackathon organized by BEST Belgrade. The theme was e-banking and the task was to, using Open Bank Project API, make a banking application for customers. I was part of a team which developed a fully functional desktop application (in C#) with database integration and communication with OBP API. We also implemented a simple financial assistant.

Volunteering

2017 — **Treasurer.** *EESTEC LC Belgrade.* Together with 6 more people, I have led the EESTEC LC Belgrade organization. Also, I was responsible for planning budget for every project in organization, paying bills and controlling money flow as well as leading the grants team. During this time (from January to December 2017) we organized numerous events such as PLC+ Challenge, EESTech Challenge Local Round hackathon, Belgrade State of Mind vol. 3, Soft Skill Academy or JobFair. ***About EESTEC:*** Electrical Engineering STudents' European assoCiation (EESTEC) is an apolitical, non-governmental and non-profit organization of EECS students from all over Europe. EESTEC, nowadays, is present in 25 countries and 50 universities across Europe, with over 5000 members. EESTEC LC Belgrade has been official Member of the Association since 2000, and nowadays is one of the largest and the best organized Local Committees in Europe. Throughout the 18 years of LC Belgrade's existence, over 800 students of the School of Electrical Engineering in Belgrade have participated in numerous workshops, seminars and exchanges across Europe.

2016 — **IT Coordinator of BNE.** *EESTEC LC Belgrade.* Together with 5 more people, I have led the Brand New Engineers project. Also, as a part of my position in organizing committee I designed and implemented a website for the project. Besides that, I was participating in almost every team of the project including, but not limited to, Public Relations team and Fund Raising team.

2014 — **Laboratory demonstrator** *Center for the Promotion of Science.* I was demonstrating various experiments involving Math and Physics on National Scientific Manifestation: May – Month of Mathematics organized by Center for the Promotion of Science.

Technical support *Vinča Institute of Nuclear Sciences.* I was part of the technical support team on Scientific International Conference: LCWS14 (the 16th International Workshop on Future Linear Colliders) - the biggest conference on world of its kind.

Additional Education

2016 — Attending "Bytes of Banking" - advanced skills workshop organized by Halcom and EESTEC LC Ljubljana. Besides lectures, there was a competition where we had to make an application for BTC City in Ljubljana that connects gamification and e-banking

2015 — Attending "MG Computer Science Week" seminar. This seminar was organized by former student of Mathematical Grammar School and, also, one of the best students at University of Cambridge. The seminar consisted of five days intensive courses on various Computer Science topics.

Attending advanced seminar of Applied Physics and Electronics at Petnica International Science Center. As part of this seminar, I have been working on a project License Plate Detection mentioned above

2012 — Attending Systempro - School of Computing from 2008 to 2012

Chinese language course at Communication University of China (40 days during summer break)

Extracurricular Activities

- Playing Clarinet and Guitar
- Have been practicing Water-polo, Rowing, Table Tennis, Basketball and Swimming
- Love travelling, reading books, watching movies and TV shows
- Driver's license (category B)