Iva Potkonjak

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Profile

BSc in Software Engineering, School of Electrical Engineering, University of Belgrade

Education

School of Electrical Engineering, University of Belgrade

- 2019 – 2023
- Software Engineering study program
- Average grade: 9.89/10[1]
- Final thesis: System for computer screen detection in an image

Third Belgrade Grammar School

- 2015 - 2019
- recipient of the Vuk Karadzic diploma

Skills

- Excellent knowledge of C/C++ and Java
- Knowledge of Python, PHP and JavaScript/TypeScript
- Working with relational (MySQL, SQLite, MSSQL) and NoSQL databases (MongoDB)
- Fluent in English

Experience

Student Teaching Assistant | School of Electrical Engineering, University of Belgrade | 2021 - 2023

- Student teaching assistants are selected among the best students to assist with lecturing and examining other students.

Notable projects

Compiler for MicroJava

- Project was written in Java as a part of Compiler Construction 1 course. Implementation of a fully functional compiler for MicroJava programming language that covers basic expressions, working with arrays, control structures with conditions, function calls and declarations and working with classes (declaration, inheritance, construction of objects, use of fields, method calls, polymorphism).

Multithreaded kernel for MS-DOS operating system

- Project was written in C++. Implementing concepts of threads and semaphores on top of MS-DOS operating system, with concurrent execution of threads as a part of Operating system course.

[1] with acquired 240 ESPB credits

Slovko project

- Team project (team lead) as a part of a Principles of Software Engineering course. Implementation of a web application that is an upgrade on the existing game Wordle (now players can play against each other in real time etc.). Server code written in PHP using Codeigniter model, client written in JavaScript.

Other student projects

Web application for workshops

- Implementation of web application using MEAN stack as part of Internet application programming course. Project was implemented using Angular on front-end, Node.js on back-end and MongoDB for database.

Simulation of an online sales system

- Project was implemented using JDBC with database on MS SQL Server. Database contains required stored procedures and triggers while design was made using Erwin.

Store management system

- Implementation of web services and system startup using container orchestration as a part of E-business Infrastructure course. Project was implemented using Python with Flask and SQLAlchemy libraries, Docker was used for container management.

Information system of a bank

- Implementation of a client, server and subsystem applications that communicate using JMS and REST in Java as a part of Information systems 1 course.

Demonstration of the PGP protocol

- Implementation of a desktop application using Python that implements PGP protocol for sending messages (within the computer as files) as part of Computer Security course.

Parallelization of sequential algorithms

- As part of a multiprocessor system course, already existing algorithms for counting prime numbers, calculating 3D Poason equation and simulating molecular dynamic were parallelized using OpenMP, MPI and CUDA.

Several programs applying algorithms and data structures concepts

- Some of the projects cover implementation od a Red-Black tree using isomorphic 2-3-4 tree, text prediction system using Trie tree and derivative calculator using binary expression tree. Projects were written in C/C++ as part of Algorithms and Data Structures courses.

Interests in the field of software engineering

- Back-end/FullStack development
- Information systems
- Parallel and Distributed systems
- Compilers
- Computer vision and deep learning