Mihailo Grbić

Electrical Engineering and Computer Science Student

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Education

2018 - *present* **Belgrade University, Faculty of Electrical Engineering** Belgrade, Serbia
Bachelor of Engineering, Electrical Engineering and Computer Science

2014 - 2018 **Mathematical Grammar School** Belgrade, Serbia
Graduated from Mathematical Grammar School, Honours class of top twenty students. GPA 5/5

2015 - 2018 **Petnica Science Center** Valjevo, Serbia
Attendant at Seminar of Applied Physics and Electronics. Attends advanced lectures and workshops and authors annual research projects.

Experience

2018 - *present* **Petnica Science Center Assistant** Valjevo, Serbia
Assistant at Department of Applied Physics and Electronics. Holds lectures and workshops on the subject of programming and machine learning, mentors student projects.

2015 - *present* **Robotics and Computer Science Club (PFEMG) Founder and Head** Belgrade, Serbia
Founder and head of the Electronics and Computer Science Club in Mathematical Grammar School aimed at students interested in robotics, electronics, programming, embedded systems, computer vision and machine learning. Mentors student projects and holds lectures about analog and digital electronics, computer vision and machine learning. Manages the club, organizes the club's program and it's displays at science festivals. Contacted sponsors and raised funds for the club.

Projects

July 2017 - November 2017 **Database enlargement using Generative Adversarial Networks** Petnica Science Center
The goal of the project was to enlarge the Street View House Numbers (SVHN) database to increase the accuracy of a Classifier Neural Network. Two methods of image synthesis were tested, a naive method and an advanced method using Generative Adversarial Networks (GAN). Classifier Convolutional Neural Network (CNN) and a Deep Convolutional Generative Adversarial Network (DCGAN) was implemented in Python using the Tensorflow library. The research was featured at Annual Petnica Science Center Conference and will be published in Petnica Science Journal.

July 2016 - November 2016 **Automatic Book Scanning Using Parallel Laser Rays** Petnica Science Center
The goal of the project was to rectify an image of a book so it looks like the book was scanned. This is done by projecting 2 parallel laser rays onto the book, calculating the 3D profile of the book and then transforming the shape to a plane and rectifying the image in respect to that transformation.

May 2017 - June 2017 **Digital Circuit Simulation** Mathematical Grammar School
The goal of the project was to make a digital circuit simulator (inspired by Logisim), to implement it using object oriented programing and to document the code fully. All basic logic gates were implemented, as well as wires, transistors, logical pins, clocks and displays. The project Coauthors are Damjan Denić and Andrej Jakovljević.

September 2016 **SoilBuggy** CoderDojo Pančevo Hackaton
A rough terrain robot Buggy which makes physical and chemical soil measurements and using machine learning determines the soil quality

Honours & Awards

2015 - 2017 | **Serbian High School Competition Awards** | Serbia

- Republic Physics Competition - Second Prize (2015)
- Republic Physics Competition - Third Prize (2016)
- Republic Physics Competition - Third Prize (2017)
- Republic Informatics Competition - Third Prize (2015)

July 2018 | **RetailTech Hackathon 3rd prize** | Belgrade, Serbia
ICT Hub, Delhaize Srbija, Project MaxiGO

April 2017 | **Robotics Hackaton 1st prize** | Pančevo, Serbia
CoderDojo Pančevo, Project SoilBuggy

December 2016 | **Best Individual Speaker** | Belgrade, Serbia
"Decembarac" Faculty of Law begginer debate tournament

Skills

●●●●● Proficient — C/C++, Arduino, Data Structures

●●●●○ Experienced — C# , Python, Haskell

●●●○○ Skilled — Prolog, Tensorflow, Machine Learning, Matlab, Inkscape, Computer Vision