

MLADEN BAŠIĆ

EXPERIENCE

Software Engineering Intern

Microsoft Development Center Serbia 📅 Feb 2021 – May 2021

- Improved camera head position estimation software using head tracking from HoloLens2 and complementary filter
- Developed software pipeline for camera calibration testing and estimation
- Ran multiple experiments using real calibration data and tested factory intrinsic calibration with multiple developed metrics

Python

Camera Calibration

Mixed Reality

Assistant at Petnica Science Center

Department of Applied Physics and Electronics 📅 2018 – present

- Held lecture about Linear Algebra, Image Processing and Natural Language Processing
- Held workshops in Physics Simulation, Digital Signal Processing and Natural Language Processing
- Supervised project in *Hybrid Model for Sentence Completion*

PROJECTS

Relative Camera Pose Estimation

Petnica Science Center Machine Learning Seminar 📅 summer 2020

- Developed a model for estimating relative change in camera position between two frames
- Model consisted of two siamese AlexNets and a fully connected layer which outputs relative translation and rotation
- Training was done on car driving dataset

Python

PyTorch

KITTI Dataset

Automatic Extractive Summarization of Multiple Documents

Petnica Science Center 📅 summer 2018

- Multi-document extractive summarization
- Text ranking done using Recursive Neural Networks
- Sentence selection done using ROUGE metric with greedy approach and linear programming

Python

TensorFlow

DUC Dataset

The Analysis of Ball Balancing Robot Control System

Petnica Science Center 📅 summer 2017

- Simulation of robot's physics and imperfect sensors
- Signal filtering done using Complementary and Kalman filter
- System stabilization done using PID and LQR controller

Paper

MATLAB

Python

Word Recognition from Gyroscope Signals

Petnica Science Center 📅 summer 2016

- Built own database with gyroscope recordings in different frequencies
- Gyroscope data recorded using *MicroPIC* board
- Word recognition done using Dynamic Time Warping method

Paper

MATLAB

MicroC

📍 Belgrade, Serbia
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🐙 github.com/basicskill
🌐 linkedin.com/in/basic-mladen

EDUCATION

B.Sc. in Electrical Engineering and Computer science (expected)

University of Belgrade 📅 2018 – 2022

Signals and Systems Department
Ongoing GPA: 9.3 / 10

Grammar school

Special Mathematics class 📅 2014 – 2018

PROFESSIONAL SKILLS

Python

MATLAB / Octave

C++

Bash

Git



LANGUAGES

English

Serbian (native)



FACULTY WORK

Undergrad Teaching Assistant

Object Oriented Programming Course 📅 2020

- Homework and final project grading
- Conducting oral examinations

Member of ETF Robotics group

Renesas MCU Rally Faculty team 📅 2019

- Developed physics simulation of model vehicle with sensors and localization
- DC motor testing and measurement

OTHER

Hackathons

- SUMA MATF Hackathon: Pollution Prediction [2. Place]
🐙 basicskill/matf-hackathon
- TUM-JA Hackathon: Crowdedness of Public Transport
🐙 basicskill/tum-hackathon

Course Projects

- Handwritten Digit Recognition (Neural Network from Scratch) (MATLAB)
- Digital Circuit Simulator (C++)
- DataFlow Equation solver (C++)