

# MLADEN BAŠIĆ

## EXPERIENCE

### Machine Learning Intern

Microsoft Development Center Serbia 📅 Oct 2021 – Mar 2022

- Worked on a model for premium feature upselling based on user actions in Word Online
- Collaborated with software engineering team on feature extraction and model deployment
- Wrote queries for big data parsing from a preexisting database

Python Sequence Classification Kusto Query Microsoft Office

### Software Engineering Intern

Microsoft Development Center Serbia 📅 Feb 2021 – May 2021

- Improved camera head position estimation software by implementing a complementary filter on head tracking system from HoloLens2 and Azure Kinect's head localization software
- Developed software pipeline for synthetic camera calibration, testing and 3D pose estimation
- Ran experiments using real-world calibration data and tested quality of intrinsic calibration after an airplane travel simulation

Python Camera Calibration Mixed Reality

### Junior Associate and Lecturer

pfe.rs 📅 2018 – present

- Held lectures in Linear Algebra, Image Processing and Natural Language Processing
- Held workshops in Physics Simulation, Digital Signal Processing, Natural Language Processing and Machine Learning
- Supervised project: *Hybrid Model for Sentence Completion and Bug Physics Simulation*

Python Linear Algebra Signal Processing Machine Learning

## PROJECTS

### Relative Camera Pose Estimation

Petnica Science Center Machine Learning Seminar 📅 summer 2020

- Developed a model that estimated relative change of camera position between two frames
- Model consisted of two identical AlexNets and a fully connected output layer which returns relative translation and rotation in quaternions
- Training was done on car driving dataset

Python PyTorch Computer Vision

### Automatic Extractive Summarization of Multiple Documents

Petnica Science Center 📅 summer 2018

- Multi-document extractive summarization done on news articles
- Text ranking done using Recursive Neural Network that traversed through the sentence tree and scored every n-gram leaf to root
- Sentence selection was realized using greedy approach on scored sentences, discarding ones that have a set percentage of similar words

Python TesnorFlow Natural Language Processing

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## EDUCATION

### M.Sc. in Electrical Engineering and Computer Science (in progress)

University of Belgrade 📅 2022–2024

### B.Sc. in Electrical Engineering and Computer science

University of Belgrade 📅 2018 – 2022

Signals and Systems Department

GPA: 9.1 / 10

**Thesis:** Medical Image Registration using Convolutional Autoencoders

## 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 noisy sensors and localization
- DC motor testing and attribute measuring

## SMALLER PROJECTS AND HACKATHONS

- SUMA MATF Hackathon: Pollution Prediction
- TUM-JA Hackathon: Crowdedness of Public Transport
- Word Recognition from Gyroscope Signals (MATLAB)
- Handwritten Digit Recognition (Neural Network from Scratch) (MATLAB)
- Digital Circuit Simulator (C++)
- DataFlow Equation solver (C++)