

## VLADIMIR NIKOLIĆ

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## SKILLS

## BIOINFORMATICS

Genome Assembly★  
Variant Calling  
Illumina, Linked Reads

## SYSTEMS &amp; EMBEDDED

Linux★, Bash★  
Arduino, Raspberry Pi, STM32  
Computer Architecture  
Basic Electronics

## DATA SCIENCE

Deep Learning, Tensorflow  
Computer Vision, OpenCV  
Python★, R  
SQL, PostgreSQL

## HIGH PERFORMANCE

C★, C++★, Rust  
SLURM  
Large Datasets

## WEB &amp; MOBILE

Django, Flask  
HTML, CSS, JavaScript  
Bootstrap, jQuery  
Java, Android

## LANGUAGES

Serbian (*Native speaker*)  
English (*Fluent*,  
IELTS 8 / CEFR C1)  
German (*Basic*)

★ Proficient

## EDUCATION

University of British Columbia, Faculty of Science ([ubc.ca](http://ubc.ca))

MSc in Bioinformatics

NSERC-CREATE scholarship awardee

Expected graduation: Spring 2021

Vancouver, Canada

Winter 2018 – present

University of Belgrade, School of Electrical Engineering ([etf.bg.ac.rs](http://etf.bg.ac.rs))

BSc in Software Engineering

CGPA: 9.54/10.00, Thesis:

"Cloudiness Estimation using Convolutional Neural Networks".

Belgrade, Serbia

Autumn 2013 – Spring 2018

## WORK &amp; RESEARCH EXPERIENCE

Institute of Physics Belgrade Innovation Centre ([ic.ipb.ac.rs](http://ic.ipb.ac.rs))

Internship, Teslagram Project

(Computer Vision, OpenCV, C++, High Performance Computing)

Devised and implemented a custom visual pattern comparison algorithm.

Belgrade, Serbia

Spring 2018, Autumn 2018

## Startup

Co-founder, Medici Project

(Finance, Android, OpenCV, Machine Learning, Python, Django)

Attempted and failed a startup due to team's diverging future plans. The idea was to create a personalized assistant for every day financial tasks.

Belgrade, Serbia

Autumn 2017 - Spring 2018

## PUBLICATIONS &amp; CONFERENCE PROCEEDINGS

International Meteor Conference 2018 Proceedings ([imo.net/...](http://imo.net/...))

"Automation of a meteor video network"

Nikolić, V; Golubović, S;

Pezinok-Modra, Slovakia

Summer 2018

International Meteor Conference 2017 Proceedings ([imo.net/...](http://imo.net/...))

"Cloudiness estimation for video meteor observations"

Nikolić, V; Schröder, L; Tešić, A;

Petnica, Serbia

Autumn 2017

## OTHER ACTIVITIES

## Personal Project

Arch Setup ([github.com/...](https://github.com/vladlich/arch-setup))

(Linux, Bash)

A set of Bash scripts that automate the setup of various Arch Linux components to make it functional and user friendly.

Spring 2017 – present

## Personal Project

Autumn 2017 – present

*Meteor Observation Notebook* ([play.google.com/...](https://play.google.com/...))

(Android, Java)

An Android application that aids visual meteor observations. Adjusted not to distract at night time and to help later data analysis.

## UBC Orbit ([ubcorbit.com](http://ubcorbit.com))

Vancouver, Canada

*Aspectu Project*

Winter 2018 - Autumn 2019

(C++, STM32, FreeRTOS)

Member of the UBC Orbit student club whose mission is to build and launch a cubesat capable of capturing images of Earth.

## PRACE Summer of HPC ([summerofhpc.prace-ri.eu](http://summerofhpc.prace-ri.eu))

Ostrava, Czech Republic

*Summer school, ABySS Assembler* ([github.com/...](https://github.com/...))

Summer 2018

(C++, High Performance Computing, Bioinformatics)

Improved the performance of one of the genome assembling stages, Sealer, with the use of OpenMP and MPI.

## Open Source

Autumn 2017 - Summer 2018

*Contributor, Meteorflux Project* ([meteorflux.org](http://meteorflux.org))

(Python, Flask, Bootstrap, jQuery, AWS, Leadership)

An open source project by the International Meteor Organization for analysing meteor shower activity. I lead a team of volunteers from Petnica Meteor Group that fixes bugs and adds additional features.

## Petnica Summer Institute Machine Learning 2017 ([psiml.petnica.rs](http://psiml.petnica.rs))

Petnica, Serbia

*Participant, All Sky Cloudiness Estimator Project* ([github.com/...](https://github.com/...))

Autumn 2017 - Spring 2018

(Python, Tensorflow, OpenCV)

A software package that outlines night sky clouds in All Sky images for the purposes of video meteor observations.

Presented at International Meteor Conference 2017.

Awarded 3rd place on IEEEESTEC - 10th International Students Projects Conference.

## International Meteor Conference 2017 ([imo.net/...](http://imo.net/...))

Petnica, Serbia

*Member of the local organizing committee*

Autumn 2017

(Organization)

Helped organize the conference, introduce attendees, and provide technical support.

## Petnica Meteor Astronomy Summer School

Petnica, Serbia

*Participant, Cherry Aggregation Project*

Summer 2017

(Meteor Astronomy, C++, Python)

Learned about meteor astronomy and visual meteor observation.

Implemented a 3D physics simulation in C++ and its visualization in Python of ballistic aggregation.

## University of Belgrade, School of Electrical Engineering ([etf.bg.ac.rs](http://etf.bg.ac.rs))

Belgrade, Serbia

*Mewps Project*

Autumn 2016 - Spring 2017

(Python, C++, Raspberry Pi, Arduino)

A robot platform that utilizes Raspberry Pi and Arduino. Capable of tracing and moving towards sound sources.

Originally a hobby project, later supervised by my microprocessor systems professor Saša Stojanović.

## EDIT Summer School 2016 ([edit.world](http://edit.world))

Belgrade, Serbia

*Participant*

Summer 2016

(Android, OpenCV)

Made an augmented reality Android app that is capable of rendering 3D models of preset textbook pictures as they appear on the camera.

Awarded as the best participant.

**University of Belgrade, School of Electrical Engineering ([etf.bg.ac.rs](http://etf.bg.ac.rs))**  
*Student Demonstrator*  
Overseeing laboratory practices and grading students' assignments.

Belgrade, Serbia  
Autumn 2014 - Autumn 2017

**University of Belgrade, School of Electrical Engineering ([etf.bg.ac.rs](http://etf.bg.ac.rs))**  
*Student Mentor*  
(Soft Skills)  
Introducing and helping out freshmen with university's organization and classes.

Belgrade, Serbia  
Autumn 2015 - Autumn 2016

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## INTERESTS & HOBBIES

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Nature & Urban Exploring • Rock climbing • Parkour • Snowboarding • Soft Martial Arts • Meteor Observation