Vítězslav Lužný

Citizenship: Czech Republic

Birth date: April 27, 2001

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Education

Charles University, Faculty of Mathematics and Physics   September 2020 – Present
pursuing bachelors degree in Mathematical Modelling   *Prague, Czech Rebublic*

Gymnázium Christiana Dopplera   September 2016 – June 2020
School-leaving examination   *Prague, Czech Republic*

Work Experience

Technician   July, 2022 – Present

Nano Optics group, Institute of Photonics and Electronics of the Czech Academy of Sciences
- Currently working on "Analysis and reconstruction of iSCAT fluctuation patterns"
- Developing a controlling software for high speed iSCAT microscopy (C/C++, Python)
- Developed a controlling system for phase vortex generation using heat signature (Arduino, C/C++)

Speckle pattern analysis   January, 2022 – June, 2022

Nano Optics group, Institute of Photonics and Electronics
- (Python)

Software development for high speed iSCAT microscopy   September, 2021 – November 2021

Nano Optics group, Institute of Photonics and Electronics   February, 2021 – May, 2021

June, 2020 – September, 2020

- (C/C++, Python, LabView)

Internship   January, 2019 – December, 2019

Nano Optics group, Institute of Photonics and Electronics
- Point Spread Function estimation from measurements (Matlab, LabView)

Extending Jídelna application   October, 2018 – February, 2019

BARDA SW, HW, s.r.o.
- Bug fixes (Java)

Extending module Objednávky in Jídelna application   July, 2018 – August, 2018

BARDA SW, HW, s.r.o.
- Data synchronization (Java)

Nano Optics exposition at Veletrh vědy   June, 2018 – June, 2018

Nano Optics group, Institute of Photonics and Electronics

Internship   January, 2018 – December, 2018

Nano Optics group, Institute of Photonics and Electronics
- Developed a controlling software for confocal iSCAT microscope (C#)

Projects, Competitions & Achievements

Qminers Quant Hackathon
November 2022
- **Math and machine learning competition** to develop a betting strategy for beating a virtual hockey bookmaker
- Lead the team **greenhorns2** as **captain**
- Won the **6th place** (out of 18) at the finale

Qualified for working with electronic devices
From May 2022

Institute of Photonics and Electronics
- Trained according to the §4 Decree 50/1978 Coll.

International Young Physicists' Tournament
September 2018 - June 2020
- Demonstrated leadership skills as the **captain** of the team **Kudlankográl GChD (Mantegral)**
- Personally worked on many open-ended inquiry problems, such as *Popsickle Chain Reaction*, *Moiré Thread Counter*, *Sweet Mirage* and more
- **Won the second place at the national level in 2020**
- Won the third place at the regional level in 2019

Highschool technical project (Středoškolská Odborná Činnost - SOČ)
2020
- Project *Graphics Engine in C++ and OpenGL*
- Learned about graphics programming and programmed a library for simple 3D and 2D graphics in OpenGL
- Won the third place at the regional level

Matfyz FEAT
2018
- Teamwork, project Acoustic Levitator
- Won the Jury Prize

Regular participation in competitions
2018 and before
- Such as *Purple Comet*, *Mathematical Olympiad*, *Physics Olympiad*, *Young Programmer* and more

Specialized Skills

Programming Languages: C/C++ (advanced), Python (intermediate) and more
Other: Machine learning
Languages: Czech (native), English (good), German (basic)

Other Interests

Sports: Swimming, Hiking