

# Samuel Jankových

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## EDUCATION

### 8-year Gymnasium Tilgnerova

Primary and Secondary education

*Leaving exams: All grade 1 (out of 5, 1 is best)*

2012 – 2020

Bratislava, Slovakia

### HASCO, Georg August University of Göttingen

Summer School *Grade: A (A is best)*

2020

Göttingen, Germany

### Charles University, Faculty of Mathematics and Physics

Bc. in Physics *Grade Average: 1.00 (out of 3, 1 is best)*

2020 –

Prague, Czech Republic

## COURSEWORK / SKILLS

- Physics Fundamentals
- Machine Learning
- Deep Learning
- Deep Neural Networks
- Advanced Quantum Mechanics
- General Relativity
- Computing on HPC clusters
- GPU computing
- Linux administration

## PROJECTS

### Measurement and simulation of a temperature field [↗](#) | [School Project](#)

2019

- Heat Equation
- Thermal Imaging
- Thermal Conductivity
- <https://arxiv.org/abs/1909.01460>

### Fake $\tau$ background in $\tau^*$ search [↗](#) | [Summer School Project](#)

2021

- Fake Factor Method
- $\tau$  classification
- ATLAS Collaboration
- [https://drive.google.com/file/d/1k7So9AuAj62re\\_s0pZRw0U2cgkDUlR0y/view?usp=sharing](https://drive.google.com/file/d/1k7So9AuAj62re_s0pZRw0U2cgkDUlR0y/view?usp=sharing)

### Jet Identification Deep Neural Networks [↗](#) | [Python Framework](#)

2023

- Deep Learning
- Tensorflow
- Jet Physics
- Quantum Chromodynamics
- <https://github.com/jansam123/JIDENN>

# THESES

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## Quark/Gluon Jet Tagging [↗](#) | [Bachelor Thesis](#)

2023

- **ATLAS presentations**
- **continuing research at ATLAS**
- Quark and Gluon Jets
- Jet Flavour Tagging
- Jet Constituents
- Monte Carlo Simulations
- Transformer Architecture
- [https://github.com/jansam123/bachelor\\_thesis/blob/master/build/thesis.pdf](https://github.com/jansam123/bachelor_thesis/blob/master/build/thesis.pdf)

## EXPERIENCES

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### BEZ Transformers a.s., *Intern*

2019

*BEZ Transformers a.s. is a world-wide transformer manufacturer.*

*Bratislava, Slovakia*

- CAD modeling of transformers
- Fluid flow modeling using Ansys Fluent
- Transformer cooling analysis

## PROFESSIONAL INTERESTS

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|---------------------------------|--|--------------------------|
| • Particle Physics              | • Deep Neural Networks in HEP research | • Clean Code             |
| • CERN research                 | • Transformer Architectures            | • Advanced Statistics    |
| • Standard Model                | • Software Design                      | • GPU computing          |
| • Beyond Standard Model Physics |  | • Quantum Chromodynamics |

## AWARDS AND SCHOLARSHIPS

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### Scholarship for Excellent Study Results

2022

2nd year Bc.     *Amount: 770 €*

*Charles University, Prague*

### Scholarship for Excellent Study Results

2021

Summer Term 1st year Bc.     *Amount: 770 €*

*Charles University, Prague*

### Scholarship for Excellent Study Results

2020

Winter Term 1st year Bc.     *Amount: 640 €*

*Charles University, Prague*

## TECHNICAL SKILLS

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**Languages:** Python, C, C++

**Frameworks:** ROOT, Tensorflow, Scikit-learn, Uproot, Hugo

**Technologies:** MacOS, Linux, Git, VS Code, Docker, Slurm, Condor, L<sup>A</sup>T<sub>E</sub>X

## SPOKEN LANGUAGES

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**English:** C1

**German:** B1

**Slovak:** native