

# Ákos Soós

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## Education

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### Eötvös Loránd University

*Bachelor of Science in Mathematics*

*Sept 2022 – July 2025*

- GPA: 4.x/5.0
- With an emphasis on applied mathematics and computer science

### Nagy Lajos High School in Szombathely

*General Certificate of Secondary Education*

*2018 – 2022*

- Advanced level exam in mathematics
- Commemorative Medal of the school, Silver Plaque for competition achievements

## Experience

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### BSc. Thesis Research

*2024 –*

*Title: Neural network-based modelling and solving of SIR epidemic spreads*

- It is about a neural network-based approach of compartmental models in epidemiology
- Supervised by Dr. Imre Fekete
- Goals:
  - To better represent the governing equations in a network
  - To be able to design the architecture of the network more efficiently

## Projects

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### Group project integrating applied mathematics with theoretical chemistry

- Together with chemistry and mathematics students
- Created a program, which, given an input temperature and type of gas, outputs the relative population of the vibrational/rotational states
- Optimized for greater molecules

### Solving differential equations via neural networks

- Different approaches to determine the solution of an initial condition problem with NNs
- Physics Informed Neural Networks for ordinary and partial differential equations

### Stroke prediction from medical data

- Using classical machine learning and data mining, predicts if a patient will likely have a stroke or not

## Skills

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**Programming:** Proficient with Python, Course experience in C++, R

**Languages:** English (C1, TOEFL: 105/120), German (B2), Hungarian (native)

**Basic and other computer skills:** Windows, MS Office, LaTeX, HTML, GIMP

## Extracurricular activities

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- Organizer and volunteer at International Young Physicists' Tournament
- Providing math tutoring to high school students for test preparation