

# Lukass Kellijs

## Profile

Hello! I am an undergraduate student at Yale University studying Applied Physics. My area of focus is the use of theoretical and computational methods—such as physical modeling and machine learning—for engineering research and development. I enjoy pursuing opportunities to practically learn and participate in scientific activities and enjoy creating such opportunities for others through volunteering in educational projects.



## Education

### Yale University

September 2023 — May 2027 (New Haven, USA)

Applied Physics (B.S.) '27 (GPA: 4.0/4.0)

### Engineering High School of Riga Technical University

September 2020 — July 2023 (Riga, Latvia)

## Extra-curricular activities

### Head / Public Relations Manager at European Space Camp (ESC)

September 2022 — Present (Andøya, Norway)

Largest educational space camp in Europe. Have led a team of 6 international volunteers for the past 3 years—planning, organizing, and promoting ESC.

### Director of Outreach / Member, Yale Undergraduate Aerospace Association (YUAA)

September 2023 — Present (New Haven, USA)

Board member, responsible for alumni relations, speaker, professional development, and outreach events for the club. Member of CubeSat (Mechanical), and Liquid Rocket (Propulsion) teams.

### Avionics Team Lead at Riga Technical University High Power Rocketry Team

October 2020 — September 2023 (Riga, Latvia)

First rocketry team in Latvia. In charge of leading the Avionics sub-team, developing and testing all electrical systems used in our launches.

### Participant / Mentor at European Space Agency's CanSat Competition

December 2020 — September 2022 (Riga, Latvia)

In 2021, lead first-ever team to represent Latvia. Later, helped promote the project and mentored other CanSat teams.

## Research

### Logan Wright Applied Physics Laboratory, Yale University

September 2024 — Present (New Haven, USA)

Using Machine Learning methods for the inverse design of quantum optical systems.

### Forest Damage – Bark Beetle Identification Using Remote Sensing in Latvian Territories

September 2021 — September 2022 (Riga, Latvia)

Independently conducted research. Awarded perfect score at the National Research Competition and chosen to represent Latvia at the EU Contest for Young Scientists 2022.

## Achievements

- **International Physics Olympiad 2022, 2023** - Bronze Medal
- **European Physics Olympiad 2022** - Bronze Medal
- **Latvian National Physics Olympiad 2021, 2022, 2023** - 1st place
- **EU Contest for Young Scientists 2022** - Natural Biodiversity Award 2022
- **Nordic-Baltic Physics Olympiad 2022** - Silver Medal
- **Baltic States French Olympiad 2021** - Silver Medal

## Relevant Coursework

**MENG 185** Mechanical Design

**S&DS 238** Probability and Bayesian Statistics

**MENG 400** Computer-Aided Engineering

**PHYS 430** Electromagnetic Fields and Optics (Current)

**PHYS 440** Quantum Mechanics

**S&DS 689** Scientific Machine Learning (Graduate)

**ENV 594** Global Carbon Cycle (Graduate, Audit)

**CPSC 452** Deep Learning Theory and Applications (Current)

### Details

Riga, Latvia / New Haven, USA

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### Links

[Linkedin](#)

[GitHub](#)

[Portfolio](#)

### Skills

Python, Data Analysis (NumPy, SciPy, Pandas), ML (PyTorch), C++, Matlab, R, JavaScript, Electronics, Embedded Programming, CAD (Solidworks, Onshape), 3D Printing, Graphic Design, LaTeX

### Interests

Physics, Engineering, Machine Learning, Inverse Design, Sensor Technologies, Robotics, Space, Earth and Planetary Sciences, Climate Sciences, Green Energy

### Hobbies

Climbing, Basketball, Skiing, Snowboarding, Downhill Longboarding, Guitar, Reading.

### Languages

Latvian

English

German

French