

Lukass Kellijs

Profile

Hi, I am an undergraduate student at Yale University studying Applied Physics. I focus on using theoretical and computational methods—such as machine learning and physical modeling—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: 3.99/4.00)

Engineering High School of Riga Technical University

September 2020 — July 2023 (Riga, Latvia)

ECs

Co-President at Yale AI Association

September 2025 — Present (New Haven, USA)

Founded club of more than 100 members, propose and organize events, lead club work.

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

September 2022 — September 2025 (Andøya, Norway)

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

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

September 2023 — September 2025 (New Haven, USA)

Board member, responsible for alumni relations, speaker, and outreach events for the club. Led projects in 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.

Research

Logan Wright Applied Physics Laboratory, Yale University

September 2024 — Present (New Haven, USA)

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

Computational and Applied Mathematics Laboratory, ETH Zürich

May 2025 — July 2025 (Zürich, Switzerland)

Summer research in scientific machine learning—exploring the use of physics-informed losses for the training of neural operator models.

SciML Plasma Turbulence Surrogate Models

September 2024 — May 2025 (New Haven, USA)

Exploring methods of Scientific Machine Learning to create efficient surrogate models for plasma turbulence simulations using data from the MIT PSFC.

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 1105 Mechanical Design

MENG 2050 Computer-Aided Engineering

S&DS 2380 Probability and Bayesian Statistics

PHYS 4300 Electromagnetic Fields and Optics

PHYS 4500 Thermodynamics and Statistical Mechanics

PHYS 4400 Quantum Mechanics I and II

S&DS 6890 Scientific Machine Learning (Graduate)

ENV 5940 Global Carbon Cycle (Graduate, Audit)

CPSC 4520 Deep Learning Theory and Applications

CPSC 5710 Trustworthy Deep Learning (Graduate)

Details

Riga, Latvia / New Haven, USA

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Links

[LinkedIn](#)

[GitHub](#)

[Portfolio](#)

Skills

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

Interests

Deep Learning, Reinforcement Learning, Physics, Engineering, 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