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 oportunities 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, 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.

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 states.

SciML Plasma Turbulence Surrogate Models
September 2024 — Present (New Haven, USA)

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

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	**PHYS 440**	Quantum Mechanics
S&DS 238	Probability and Bayesian Statistics	**S&DS 689**	Scientific Machine Learning (Graduate)
MENG 400	Computer-Aided Engineering	**ENV 594**	Global Carbon Cycle (Graduate, Audit)
PHYS 430	Electromagnetic Fields and Optics (Current)	**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