Wiktor Buchajski

EDUCATION

University of Bristol, Bristol **09/2023–current**
MEng Aerospace Engineering, On pace to receive First-Class Honours

Akademeia Tutorial College, **Warsaw** **09/2021–06/2023**
International GCE Advanced Level Mathematics: A, Physics: A, and Economics: A, Grading scale E-A**

Akademeia High School, **Warsaw** **09/2019–06/2021**
IGCSE Examinations Math: 9, Chemistry: 8, Physics: 8, French: 8, English: 7, Grading scale 1-9

CURRICULAR ACTIVITIES

Team research and build project, 09/2024-05/2025

Part of team of 5 which designed and built horizontal tail plane for STOL UAV

- I was responsible for aerodynamic and mechanism for flaps design and testing
- Full UAV was tested in wind tunnel and results compared to design calculations which were made using Xfoil, ESDU data sheets, linkage,and potential flow model calculations to evaluate performance and satisfaction of mission aims

Independent research project, 01/2025-05/2025

- Vibrations system of a vertical tail plane was analyzed to characterise the system and propose a tuned vibration absorber to suppress the resonant buffeting
- Used a variety of methods and skills such as MATLAB, Dynamic Systems Modeling, Frequency Response Analysis, Flutter Prediction, Vibration Control.

Independent research project, 01/2025-05/2025

- Analysis of satellite telemetry data, signal analysis of received was used to find potential hardware
- Proportional–integral–derivative, PD, P with rate feedback, controllers were designed and calibrated to move satellite while managing the dynamic interactions between the rigid body and flexible structures
- MATLAB and SIMULINK used to aid in analysis and test performance

Independent research project, 09/2024-01/2025

- Planned and designed GEO earth observing satellite mission, mission design such as mission objectives, computation and selection of payload(AOCS, Solarpanels, Batteries, etc)
- Orbital and launch analysis, delta V calculations for launcher selection and orbital maneuvers like hohmann transfer to estimate needed fuel.

EXTRACURRICULAR ACTIVITIES

Independent research project, 06/2022-06/2023

- Designed and constructed remotely controlled self-stabilising bike as a new solution to low-emission unmanned transport

CanSat Competition (leader of a team), 10/2021-04/2022

- Designed and constructed a mini satellite that self stabilises during freefall utilising a simplified AOCS system to be launched into troposphere
- Led a team six students, I was responsible for mechanical and electrical systems
- Placed as the top 10 finalist (out of 80 teams) in Poland

Independent research project, 2020

- Designed and constructed high speed first person view drone with potential for high speed search and rescue
- Programmed camera to transmit live video footage to pilot allowing to analyze how load and wind speed impact flight dynamics

WORK EXPERIENCE

Internship (Full-Time), Vigo Photonautics, Warsaw, Poland **08/2022**

- Worked on the production floor helping to construct and test infrared light detectors
- Learned about the production process, from order receiving to final delivery
- Assisted in testing of sensors

Internship (Full-Time), Agio Investment Fund, Warsaw, Poland **07/2022**

- Worked in the IT department developed programming skill
- Learned analytical methods used in the process of valuing companies
- Shadowed fund manager during internal and external meetings, gaining experience in economic and compliance perspective of the investment process

SKILLS

- Languages: Polish (native), English (native),, Spanish (A2)
- Intermediate-level programming in MATLAB
- Beginner-level use of CAD, particularly AUTODESK INVENTOR and Fusion 360
- Beginner-level use of Xfoil, GMAT, SIMULINK