

Wojciech Sadowski

Ambitious and hard-working engineer interested in numerical analysis and oriented on applying it to real-world problems. Always open for new challenges and opportunities to broaden my set of skills. I enjoy working in interdisciplinary teams, with people who share similar ideas and attitude to technology.

Phone: +48 506 741 115
E-mail: wojciech1sadowski@gmail.com
Github: github.com/szynka12
LinkedIn: linkedin.com/in/w1sadowski/

Work experience

Project leader

since Sept. 2019

The Institute of Applied Research of the Warsaw University of Technology

- Leading a research project (budget: approx. 80.000€) concerning the increase of accuracy of 3D printing in SLS technology by the means of coupled thermal and structural analyses.
- Coordinating the team consisting of three engineers.
- Running CFD simulations in commercial software and writing specialised coupled thermal/structural numerical code for the project.

CFD Engineer / Developer

since Dec. 2017

QuickerSim

- Implemented Finite Element Method solver employing geometrically exact beam elements for structural analyses with small or large deformations and linear or non-linear buckling simulations. Conducted industrial grade analysis of pressure filters with the aforementioned solver.
- Implemented various RANS turbulence models (e.g. Chien $k - \varepsilon$, Wilcox $k - \omega$) in QuickerSim in-house Finite Element Method based CFD solver adopted in industry and academia. Validated implemented models against established theoretical and experimental results.
- Conducted analysis of flow induced noise using Large Eddy Simulation by means of Lattice-Boltzmann method for research and development of hearing aids.
- Simulated blood flow for artificial organ research and development.
- Implemented various stabilisation methods for CFD in Finite Element Method framework (e.g. Flux Corrected Transport).

Intern

Sept. 2017 - Dec. 2017

Bosch, Product Life Management

- Provided technical support for CAD and CAM software users in various Bosch departments around the globe.
- Beta-tested new versions of CAD/CAM software
- Administrated PLM data.

Vehicle Dynamics Engineer

Oct. 2016 - Sept. 2017

Hyper Poland University Team

- Designed and constructed first polish Hyperloop pod prototype.
- Coordinated mechanical assembly of the prototype.
- Implemented Hyperloop prototype dynamic model in Matlab and Simulink.
- Designed and manufactured prototype lateral stabilizers

Mechanical Engineer

Oct. 2015 - Jun. 2018

Students Association of Vehicle Aerodynamics

- Constructed extremely fuel efficient vehicles Kropelka 2.0 and PAKS
- Coordinated mechanical team (5 people) of Kropelka 2.0 project.
- Improved and redesigned the drivetrain of Kropelka 2.0.

Education

M. Eng. Mechanical Engineering

Warsaw University of Technology, Faculty of Power and Aeronautical Engineering

Thesis: *Assessment of an algebraic intermittency model for separation-induced transition*

GPA: 4.33 (scale: 2.0-5.0; higher is better)

B. Eng. Robotics,

Warsaw University of Technology, Faculty of Power and Aeronautical Engineering

Thesis: *Trajectory planning and obstacle avoidance in cluttered environment*

GPA: 4.07 (scale: 2.0-5.0; higher is better)

Achievements

Ministry of Science and Higher Education Scholarship for Scientific Achievements (March 2018)

Finalist of Hyperloop Pod Competition II (Los Angeles, August 2017)

3rd place, Kropelka 2.0 project, Shell Eco-Marathon Challenger (Le Mans, 2018)

2nd place, PAKS project, Shell Eco-Marathon Challenger (Le Mans, 2016)

Skills

Engineering and Science:

Turbulence modelling	very good
CFD	good
Finite Element Method	very good

Programming:

C/C++	intermediate
Matlab, Simulink	very good
Python	good

CAE software:

OpenFOAM	very good
Ansys Mechanical	good
Ansys Fluent	good
ParaView	very good

CAD software:

Siemens NX	very good
Autodesk Inventor	good
Solidworks	intermediate

Miscellaneous:

\LaTeX	very good
Microsoft Office	good
Linux-based systems	intermediate

Languages

English	very good (level C1)
German	intermediate (level B1)
Polish	native

Personal interests

Sailing, science-fiction literature