



# Piotr Zacha

I am a graduate of the Warsaw University of Technology, where I obtained a master's degree in mechatronics engineering. I've been programming for years. During my studies, I was dealing, among others, with image processing, mainly in C++. Currently, I focused on developing my Python projects covering web-development (Django, Flask), mathematical modeling (NumPy, Matplotlib) and data processing (Pandas, Jupyter Notebook). After gaining experience as an application engineer at FEV Polska, I decided to continue career in the IT industry.

While still a student, I started working at the Space Research Center of the Polish Academy of Sciences. I also participated in international training covering the subject of current research in the conditions of microgravity and hypergravity organized by the European Space Agency.

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 [portfolio](#)

 [github.com/pzacha](https://github.com/pzacha)

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## WORK EXPERIENCE

### Software Application Engineer

#### FEV Polska

10/2018 – 02/2020

Cracow, Poland

- Development and implementation of MORPHEE automation system components for engines and vehicles test benches,
- development of Simulink model,
- working alongside German customer (on/off-site),
- participation in Polish-German-French projects,
- commissioning the projects (hardware and software tests),
- working in international environment.

### Intern Engineer

#### Space Research Centre of the Polish Academy of Sciences

04/2017 – 08/2018

Warsaw, Poland

Space Mechatronics and Robotics Laboratory

- Analysis of the impact of flexible antenna (part of Radio Frequency Analyser, used, among others, in [JUICE](#) and Chang'E-4 projects) on the dynamics of a spacecraft - creating a mathematical model,
- Matlab and Simulink simulations,
- comparing results with laboratory experiments,
- modeling of mechanical elements (Inventor) – [JUICE](#) project.

Contact: Tomasz Barciński, PhD – [tbarcinski@cbk.waw.pl](mailto:tbarcinski@cbk.waw.pl), +48 22 4966

### Student internship

#### Space Research Centre of the Polish Academy of Sciences

07/2016

Warsaw, Poland

Laboratory of Photonics and Micromechanics

Research and analysis of compact Fourier spectrometers.

Contact: Mirosław Rataj, PhD – [rataj@cbk.waw.pl](mailto:rataj@cbk.waw.pl)

### Founding member

#### Stowarzyszenie Port Szczecin

09/2017

Szczecin, Poland

Organizing cultural events. Among others, it included:

- coordination of events,
- establishing cooperation with partners,
- member of the audit committee.

Contact: mgr Justyna Majzel – [stowarzyszenieportszczecin@gmail.com](mailto:stowarzyszenieportszczecin@gmail.com)

## SKILLS

### Programming

Python, C++, Matlab

### Data Science

SQL, NumPy, Matplotlib, Pandas, Jupyter Notebook

### Web Development

Django, Flask, Bootstrap, CSS, HTML

### Other

Confluence, JIRA, Git

## FOREIGN LANGUAGES

English



German



## EDUCATION

### Warsaw University of Technology

BSc and MSc in Mechatronics (full-time),  
specialization: Photonics Engineering

10/2013 – 07/2018

- MSc thesis: Analysis of the impact of flexible antenna on the dynamics of a spacecraft – in association with SRC PAN.
- BSc thesis: Analysis and modeling of compact Fourier spectrometers.

### European Space Agency

ESA/ELGRA Gravity-Related Research Summer  
School 2017

06/2017

ESEC, Belgium

Week-long international summer school. It offered an overview of current research under microgravity and hypergravity conditions in both life and physical sciences.

## SOFTWARE PROJECTS

### [Event calendar](#)

App that allows to view and manage cultural events.  
(Django, Bootstrap, HTML)

### [Solar system model](#)

2D Solar system model. User can add additional objects to simulation.  
(NumPy, Matplotlib, Tkinter)

### [Blog](#)

(Flask, Bootstrap, SQLAlchemy, HTML)