Piotr Zacha

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WORK EXPERIENCE

Software Engineer **06/2020 – present**

Comarch, Gdańsk, Poland

Member of the monitoring and automation project of one of the largest IT systems in Poland.

- Developed Python monitoring applications (collecting metrics from a wide variety of devices, systems and applications).
- Worked on Flask Restful API (PostgresSQL database, used SQLAlchemy toolkit).
- Visualization of monitored parameters using Grafana dashboards.

Software Application Engineer **10/2018 – 02/2020**

FEV Polska, Cracow, Poland

Adaptation and configuration of the automation system controlling the powertrain test bench, according to customer requirements. In successful project for global automotive and industrial supplier in Germany responsible for:

- delivering successful installation of the test bench on customer site, which included verification and validation of system specification as well as customer sign-off tests,
- generating and modifying existing test routines to suite new test bench, including developing Python scripts for generating and modifying data,
- creating customer requirements and user stories,
- software modification based on current customer needs.

Member of the development and commissioning team of Simulink road load simulator. Responsible for:

- adjusting model for various test benches,
- diagnosing and fixing faulty test benches on site.

Intern Engineer in Space Mechatronics and Robotics/Photonics and Micromechanics laboratories **04/2017 – 08/2018**

Space Research Centre of the Polish Academy of Sciences, Warsaw, Poland

- Responsible for analysis of the impact of flexible antenna (part of Radio Frequency Analyzer, used, among others, in JUICE and Chang'E-4 projects) on the dynamics of a spacecraft. To achieve goal created mathematical model based on Laplace transform and matrix eigenvalues, performed model verification through Matlab and Simulink simulations and compared results with laboratory experiments.
- Designed small mechanical elements in Inventor for JUICE project.
- Analyzed Fourier spectrometers used in space missions. Researched and created numerical model of various methods of introducing optical path difference between beams. Their functional parameters were compared by creating Matlab simulations.

EDUCATION

Warsaw University of Technology – BSc and MSc in Mechatronics (full-time), specialization: Photonics Engineering

- 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

International training in ESEC, Belgium. It offered an overview of current research under microgravity and hypergravity conditions in both life and physical sciences.

SKILLS

Programming	
proficient in:	Python, Matlab
exposure:	Go, C++, C#, Octave
Data Science	SQL, NumPy, Matplotlib, Pandas, Jupyter Notebook, scikit-learn
Web Development	Flask, Django, HTML, CSS, Bootstrap
Languages	English – professional, German – intermediate
Other	Docker, Confluence, Jira, Git

SOFTWARE PROJECTS

2D Solar System model

Position and velocity estimation by Euler's method.

Python, Numpy, Matplotlib, Tkinter

Event calendar

App created for managing events. Deployed using Heroku.

Python, Django, Bootstrap, HTML

Blog

Python, Flask, Bootstrap, SQLAlchemy (sqlite), HTML