



# Bence Géza Czakó

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## Education

- 2013–2017 **Computer Engineering**, *Óbudai Egyetem*, Budapest.
- 2017–2018 **Applied Mathematican**, *Óbudai Egyetem*, Budapest.
- 2018– **PhD student**, *Óbudai Egyetem*, Budapest.

## Professional experience, projects

- 2016 **Robust Fixed Point Transformation based nonlinear control of a quadcopter.**  
I developed a trajectory tracking controller for a quadcopter with a novel control engineering method, discovered by a professor at the university a few years ago. The task was special in a sense, that this control technique has not been applied before to real engineering problems. A paper was made from the work which was featured on the IEEE 15th International Symposium on Applied Machine Intelligence and Informatics by the name "Novel Method for Quadcopter Controlling Using Nonlinear Adaptive Control Based on Robust Fixed Point Transformation Phenomena".
- 2016- **PhysCon - Model-based optimal control method for cancer treatment.**  
I am working in the Physiological Research Group at Óbuda University as a Phd student. I used different control techniques in order to create personalized treatment plans based on the Hahnfeldt tumor growth model. I put a huge emphasis on the use of model predictive control - linear and nonlinear - because it has several desirable features in physiological control. I also used Robust Fixed Point Transformation based method to create a nonlinear tracking controller. Recently I have developed an optimal robust algorithm that combines the nonlinear model predictive control with the robust fixed point transformation based technique.
- 2017 **Software engineer at MTA SZTAKI.**  
I worked a few months in the Hungarian research facility MTA SZTAKI in order to design control algorithms for indoor operation of quadcopters.
- 2018 **Exchange student at Universiteit Gent.**  
I was an exchange student for one semester at University Gent. In conjunction of my studies abroad, I was also working at SYSTeMS research group on the modelling of an automated anesthesia system.

## Languages

English **B2**

## Professional skills

MATLAB/Simulink

C#

Nonlinear/Linear Model Predictive control

Latex

C/C++

PID control

## Awards

2016 New National Excellence Program scholarship

2017 First place at the National Scientific Students' Associations Conference in the control engineering section

Exceptional student of the University of Óbuda

## Other interests

Psychology

Mathematics

Sport