

# TOMÁŠ JELÍNEK

## Curriculum Vitae

Email: tomasjelinek260@gmail.com  
Phone: +420 725 062 308  
Brno, Czech Republic

LinkedIn: jelinek-t  
GitHub: github.com/tjelinek



## Education

### Czech Technical University

*Ph.D. in Computer Science*

Prague, Czech Republic

September 2023 – Ongoing

- 3D reconstruction and pose estimation of unknown objects in videos

### Masaryk University

*M.Sc. in Artificial Intelligence and Machine Learning*

Brno, Czech Republic

March 2020 – June 2022

- GPA: 1.28/4.00 (1.00 being the best)
- Master's thesis: Semantic Segmentation of Histopathology Images

### RWTH Aachen University

*Computer Science*

Aachen, Germany

October 2017 – September 2018

- 1-year Erasmus exchange

### Masaryk University

*B.Sc. in Computer Science*

Brno, Czech Republic

September 2016 – February 2020

- Bachelor's thesis: Implementing Robust Matching Augmentation
- **Awards:** Dean's award for bachelor's thesis

## Experience

### Research Assistant

August 2020 – June 2022

*RECETOX, Masaryk University*

Brno

- Multi-class semantic segmentation of high-resolution histopathology images.
- **Tools:** Python, TensorFlow (Keras).

### Machine Learning - Algorithm Developer

July 2022 – March 2023

*Digiteq Automotive*

Prague

- Development of ML algorithms for onboard obstacle detection and classification from the vehicle's accelerometers.
- **Voluntary activities:** Deep learning for computer vision reading group presenter.
- **Tools:** Python, scikit-learn, PyTorch.

### Junior Researcher

April 2023 – Now

*Czech Technical University*

Prague

- **Research topic:** 3D reconstruction and 6DoF pose estimation of unknown objects in RGB videos using differentiable rendering.
- **Tools:** Python, PyTorch.

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## Skills

**Programming languages:** Python, C/C++, CUDA (basics)

**Computer vision:** Tracking, 3D reconstruction, pose estimation, differentiable rendering

**Tools:** PyTorch, Keras, scikit-learn

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## Languages

**Czech** (Native),

**English** C1 proficiency level with CAE exam (grade A),

**German** C1 with telc C1 exam.

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## Hobbies

**Sports:** Mountain bike, running, indoor bouldering, skiing.

**Other interests:** History, popular science, Brno Instructors (co-organized TMOU 4!, DUNE).

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## Publications

Jelínek, T., Šerých, J. and Matas, J., 2024. "Dense Matchers for Dense Tracking".  
*Proceedings of the 27th Computer Vision Winter Workshop. Ljubljana: Slovenian Pattern Recognition Society, 2024. p. 18-28. ISBN 978-961-96564-0-2.*