

# Dr. Tomáš Hodaň

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**Summary:** I am a Staff Research Scientist at Meta in Zurich. My research focuses on spatial AI and deep learning for AR/VR and robotics, particularly on the detection, pose estimation, and reconstruction of objects and hands. Prior to joining Meta in 2020, I received my PhD in computer vision under the supervision of Prof. Jiri Matas at the Czech Technical University in Prague, during which I interned at Microsoft Research and Google. Previously, I earned my Master's degree with honours from the Brno University of Technology. Beyond my research, I organize the BOP benchmark and R6D workshops on object pose estimation and serve as an Area Chair at top-tier academic conferences. My work has been recognized with the Rector's Prize for an outstanding PhD thesis and the Dean's Prize for an excellent Master's thesis.

## Work experience

### Meta – Staff Research Scientist (November 2020 – present)

Redmond (USA): 2020 – 2023, Zurich (Switzerland): 2023 – present  
Working on spatial AI and deep learning for AR/VR and robotics

### Google – Research Intern (November 2018 – May 2019)

Munich (Germany), working with Stefan Hinterstoesser

### Microsoft Research – Research Intern (June – August 2018)

Redmond (USA), working with Vibhav Vineet, Sudipta Sinha and Brian Guenter

### FP7 EU projects SRS and DARWIN – Computer Vision Researcher (2011 – 2015)

Brno University of Technology, Czech Technical University in Prague  
Research and development of household and assembly robots

## Education

### PhD degree in computer vision (2013 – 2020, defended in 2021)

Czech Technical University in Prague, Faculty of Electrical Engineering  
Doctoral thesis: *Pose Estimation of Specific Rigid Objects*  
Supervisor: Prof. Jiří Matas, reviewers: Prof. Vincent Lepetit, Prof. Markus Vincze, Dr. Slobodan Ilic

### Master's degree (with honours) in computer science (2010 – 2013)

Brno University of Technology, Faculty of Information Technology  
Master's thesis: *Specular Reflection Detection and Removal From Image Sequences*  
Supervisors: Dr. Robby T. Tan and Prof. Adam Herout

### Exchange study programme in game and media technology (2010 – 2011)

Utrecht University, Faculty of Science

### Bachelor's degree in computer science (2007 – 2010)

Brno University of Technology, Faculty of Information Technology

## Awards

**EgoVis 2023/2024 Distinguished Paper Award**, awarded paper: AssemblyHands from CVPR 2023

**Best Paper Award at CV4MR CVPR 2025 Workshop**, awarded paper: BOP Challenge 2024

**Rector's prize for an outstanding PhD thesis (2021)**, Czech Technical University in Prague

**Dean's prize for an excellent Master's thesis (2013)**, Brno University of Technology

## Selected publications

Google Scholar citations: 3873 (January 2026)

### **HOT3D: Hand and Object Tracking in 3D from Egocentric Multi-View Videos** (CVPR 2025)

Prithviraj Banerjee, Sindi Shkodrani, Pierre Moulon, Shreyas Hampali, Shangchen Han, Fan Zhang, Linguang Zhang, Jade Fountain, Edward Miller, Selen Basol, Richard Newcombe, Robert Wang, Jakob Julian Engel, Tomáš Hodaň

### **FoundPose: Unseen Object Pose Estimation with Foundation Features** (ECCV 2024)

Evin Pinar Örnek, Yann Labbé, Bugra Tekin, Lingni Ma, Cem Keskin, Christian Forster, Tomáš Hodaň

### **In-Hand 3D Object Scanning from an RGB Sequence** (CVPR 2023)

Shreyas Hampali, Tomáš Hodaň, Luan Tran, Lingni Ma, Cem Keskin, Vincent Lepetit

### **AssemblyHands: Towards Egocentric Activity Understanding via 3D Hand Pose Estimation** (CVPR 2023)

Takehiko Ohkawa, Kun He, Fadime Sener, Tomáš Hodaň, Luan Tran, Cem Keskin

### **Neural Correspondence Field for Object Pose Estimation** (ECCV 2022)

Lin Huang, Tomáš Hodaň, Lingni Ma, Linguang Zhang, Luan Tran, Christopher Twigg, Po-Chen Wu, Junsong Yuan, Cem Keskin, Robert Wang

### **LISA: Learning Implicit Shape and Appearance of Hands** (CVPR 2022)

Enric Corona, Tomáš Hodaň, Minh Vo, Francesc Moreno-Noguer, Chris Sweeney, Richard Newcombe, Lingni Ma

### **EPOS: Estimating 6D Pose of Objects with Symmetries** (CVPR 2020)

Tomáš Hodaň, Dániel Baráth, Jiří Matas

### **Learning Surrogates via Deep Embedding** (ECCV 2020)

Yash Patel, Tomáš Hodaň, Jiří Matas

### **BlenderProc: Reducing the Reality Gap with Photorealistic Rendering** (RSS Workshops 2020)

Maximilian Denninger, Martin Sundermeyer, Dominik Winkelbauer, Dmitry Olefir, Tomáš Hodaň, Youssef Zidan, Mohamad Elbadrawy, Markus Knauer, Harinandan Katam, Ahsan Lodhi

### **Photorealistic Image Synthesis for Object Instance Detection** (ICIP 2019)

Tomáš Hodaň, Vibhav Vineet, Ran Gal, Emanuel Shalev, Jon Hanzelka, Treb Connell, Pedro Urbina, Sudipta N. Sinha, Brian Guenter

### **BOP: Benchmark for 6D Object Pose Estimation** (ECCV 2018)

Tomáš Hodaň, Frank Michel, Eric Brachmann, Wadim Kehl, Anders Glent Buch, Dirk Kraft, Bertram Drost, Joel Vidal, Stephan Ihrke, Xenophon Zabulis, Caner Sahin, Fabian Manhardt, Federico Tombari, Tae-Kyun Kim, Jiří Matas, Carsten Rother

### **T-LESS: An RGB-D Dataset for 6D Pose Estimation of Texture-less Objects** (WACV 2017)

Tomáš Hodaň, Pavel Haluza, Štěpán Obdržálek, Jiří Matas, Manolis Lourakis, Xenophon Zabulis

## Activities

### **Organized the R6D workshop series on object pose estimation** – <http://cmp.felk.cvut.cz/sixd>

(at ICCV'15, ECCV'16, ICCV'17, ECCV'18, ICCV'19, ECCV'20, ECCV'22, ICCV'23, ECCV'24, ICCV'25)

### **Organized BOP challenges on object pose estimation** – <http://bop.felk.cvut.cz>

### **Other co-organized events:**

OpenCV Perception Challenge for Bin-Picking (CVPR'25)

PIRA Workshop on Perception for Industrial Robotics Automation (CVPR'25)

### **Area chair at CVPR'25, CVPR'26, ECCV'26; regular reviewer at top-tier conferences**

## Teaching

### **Pattern Recognition and Machine Learning** – a course at the Faculty of Electrical Engineering, Czech Technical University in Prague (2013/14, 2014/15, 2017/18)