

Tony Danjun Wang

PHD STUDENT · 3D COMPUTER VISION & SURGICAL DATA SCIENCE

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Education

TUM Technical University of Munich (TUM)

PHD STUDENT

Munich, Germany
Mar '26 – Present

- **Focus:** 3D Computer Vision, Generative Modeling, Surgical Data Science
- **Supervisor:** Prof. Nassir Navab
- **Lab:** Chair for Computer Aided Medical Procedures & Augmented Reality (CAMP)

TUM Technical University of Munich (TUM)

M.SC. IN COMPUTER SCIENCE

Munich, Germany
Oct '22 – Jan '26

- **Grade:** 1.1 (*German scale, 1.0 best*), top 3%
- **Focus:** 3D Computer Vision, Surgical Data Science

TUM Technical University of Munich (TUM)

B.SC. IN COMPUTER SCIENCE

Munich, Germany
Oct '19 – Oct '22

- **Grade:** 1.4 (*German scale, 1.0 best*), top 7%

Selected Publications

First-author and co-first-author works — full list on Google Scholar.

JOURNALS

Medical Image Analysis (Impact Factor: 10.7)

🌐 Project Page | 📄 Paper | 🔄 Code

Beyond Role-Based Surgical Domain Modeling: Generalizable Re-Identification in the Operating Room

T. D. Wang*, L. Bastian*, T. Czempiel, C. Heiliger, N. Navab

CONFERENCES

MICCAI'26 (Early Accept, Top 9%)

📄 Paper

TopoOR: A Unified Topological Scene Representation for the Operating Room

T. D. Wang, K. Y. Kim, T. Birdal, N. Navab, L. Bastian

ICML'26 (to appear)

DisPOSE: Projected Polystochastic Diffusion for Self-Supervised Multi-View 3D Human Pose Estimation

T. D. Wang, T. Birdal, N. Navab, L. Bastian

IPCAI'23 (Award Nominated)

🌐 Project Page | 📄 Paper | 🔄 Code

DisguisOR: Holistic Face Anonymization in the Operating Room

L. Bastian*, T. D. Wang*, T. Czempiel, B. Busam, N. Navab

PREPRINTS & WORKSHOPS

arXiv'26

📄 Paper

COMPOSE: Hypergraph Cover Optimization for Multi-view 3D Human Pose Estimation

T. D. Wang, T. Birdal, N. Navab, L. Bastian

MICCAI'25 COLAS Workshop (Best Paper Award)

🌐 Project Page | 📄 Paper | 🔄 Code

TrackOR: Towards Personalized Intelligent Operating Rooms Through Robust Tracking

T. D. Wang, C. Heiliger, T. Czempiel, N. Navab, L. Bastian

MICCAI'25 COLAS Workshop (Oral)

🌐 Project Page | 📄 Paper | 🔄 Code

Mitigating Biases in Surgical Operating Rooms with Geometry

T. D. Wang, C. Heiliger, N. Navab, L. Bastian

PATENTS

Anonymizing faces in surgical environments

L. Bastian, **T. D. Wang**, T. Czempel, B. Busam

Patent WO2024241289A1, published 28 November 2024

 Google Patents

Research Experience

LMU Klinikum

RESEARCH ASSOCIATE – OPEN SURGERY ANALYSIS AND RECONSTRUCTION

Munich, Germany

Jun '24 – Oct '25

- Designed and captured **multi-view recordings** of simulated open surgeries with **four RGB-D cameras**, **two high-fidelity HD cameras**, and egocentric **Aria glasses**
- Developed a framework for **kinematic analysis** and **3D reconstruction** of hand motions

Awards & Achievements

2025 **Best Paper Award**, COLAS Workshop @ MICCAI 2025, for *TrackOR*

2024 **German Society for Digital Medicine's Bachelor's Thesis Award**, Outstanding Bachelor's Thesis in the field of "Digital Medicine"

2023 **Germany's National Scholarship Program**, Merit-based scholarship program (top 1%)

2022 **Germany's National Scholarship Program**, Merit-based scholarship program (top 1%)

Teaching

Technical University of Munich (TUM)

TEACHING ASSISTANT

Munich, Germany

Oct '20 – Apr '22

- Taught exercise classes on **operating systems and system software**, **algorithms and data structures**, and **programming in Java**, including grading of assignments and exams
- Organized and taught a revision course about **computer networks and distributed systems**
- Taught an introductory course about **mathematics and programming** to freshmen

Languages & Miscellaneous

Languages

German (Native), English (C2), Chinese (C1), Latin

Miscellaneous

Trained paramedic (German Red Cross) · German permanent resident · Piano (national-level competitions)