

Yunhan Wang

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Education

University of Tübingen

MSc Machine Learning

- Specialize in machine learning and computer vision.
- Sponsored by Amazon Future Engineer Scholarship & Deutschlandstipendium.

Tübingen, Germany

Expected Jul 2025

Delft University of Technology

BSc Computer Science and Engineering (Honours & Cum Laude)

- Cumulative GPA: 8.7 (top 5%).
- Minor in Mathematics & Finance: GPA 9.0.

Delft, Netherlands

Sep 2020 - Jul 2023

Research Experience

Real Virtual Humans Group, Tübingen AI Center & Uni-Tübingen

Research Assistant; Advisor: Prof. Gerard Pons-Moll.

- Simulated Kinect noise on 3D human point clouds to enhance robust data-driven 3D human registration.
- Contributed to [SMPLAug](#), a library to augment 3D human data. Evaluated its effectiveness with SOTA models.
- Established a pipeline to estimate biomechanical data from large-scale mocap datasets.
- Investigated text-to-motion diffusion models with guided control for synthesizing 4D human-scene interaction.
- Leveraged the DINOv2 foundation model for optimization-based non-rigid registration from RGBD images.

Tübingen, Germany

April 2024 - Current

Computer Vision Lab, TU Delft

Undergraduate Researcher (honours programme); Advisor: Prof. Xucong Zhang.

- Researched multi-view Bayesian gaze estimation methods.
- Investigated vital factors that can boost gaze estimation performance. Developed state-of-the-art gaze estimation models in PyTorch.
- Contributed to [GazeTech](#), an open-source gaze estimation framework for data preprocessing and model training.
- Research conducted in collaboration with Dr. Shalini De Mello from NVIDIA Research and Prof. Hyung Jin Chang from the University of Birmingham.

Delft, Netherlands

May 2022 - Aug 2023

Thesis Researcher; Advisor: Prof. Jan van Gemert.

- Researched efficient temporal action localization via vision-language modeling.
- Benchmarked the data and compute efficiency of recent temporal action localization models.
- Subsequent research has been accepted by the 2023 International Conference on Computer Vision, Workshop on AI for Creative Video Editing and Understanding.

April-Aug 2023

Publication

Investigation of Architectures and Receptive Fields for Appearance-based Gaze Estimation

Yunhan Wang, Xiangwei Shi, Shalini De Mello, Hyung Jin Chang, Xucong Zhang. arXiv, 2023.

Benchmarking Data Efficiency and Computational Efficiency of Temporal Action Localization Models

Jan Warchocki*, Teodor Oprescu*, Yunhan Wang*, Alexandru Damacus, Paul Misterka, Robert-Jan Brintjes, Attila Lengyel, Ombretta Strafforello, Jan van Gemert. International Conference on Computer Vision, Workshop on AI for Creative Video Editing and Understanding, 2023.

(* denotes equal contribution)

Skills

Programming: Python, C++, Java, Scala, SQL, Unix, and R.

ML/3D stacks: PyTorch, NumPy, Scikit-learn, Pandas, OpenGL, Open3D, OpenCV, and SMPL.

Mathematics: Stochastic Calculus and Processes, Monte Carlo methods, Numerical methods, and Time Series.

Work Experience

Scenwise

The Hague, Netherlands

Software Data Engineering Intern

April-June 2022

- Developed a backend framework to extract and geolocalize data from social media channels to analyze crowd behaviors using computer vision and natural language processing methods.
- Developed a crowd counting and object detection tool to analyze crowd behaviors from public camera recordings
- Utilized the system to reduce city managers' crowd-managing efforts on a city-wide scale and the costs associated with collecting data from government physical sensors.
- Tech stacks: GeoPy, GeoPandas, OpenCV, NumPy, Spring Boot, PostGIS, and Docker.

CS Department, TU Delft

Delft, Netherlands

Teaching Assistant

Sep 2022 - Feb 2023

- Assisted *Algorithms and Data Structures*, *Big Data Processing*, and *Capstone AI Project*.
- Supervised student groups in developing AI-centered research projects proposed by academic staff.
- Assisted lecturers with course development to promote a positive learning environment.
- Helped students retain course knowledge using personalized teaching methods.