Yunhan Wang

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Personal webpage

Education

University of Tübingen — Tübingen, Germany
MSc Machine Learning — Apr 2024 - Jul 2026

- Cumulative GPA: 1.5.
- Courses: Deep Learning, Reinforcement Learning, Understanding LLMs, Multimodal Learning.
- Amazon Future Engineer Scholarship & Deutschlandstipendium.

Delft University of Technology — Delft, Netherlands
BSc Computer Science — Sep 2020 - Nov 2023

- Cumulative GPA: 8.7 (Cum Laude, top 5%).
- Honours Programme Graduate.

Research Experience

Real Virtual Humans Group, Tübingen AI Center — Oct 2023 – Apr 2025
Research Assistant; Advisor: Prof. Gerard Pons-Moll, Dr. Riccardo Marin. — Tübingen, Germany

- 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 human biomechanical data with motion datasets of AMASS.
- Investigated text-to-motion diffusion models with guided control for synthesizing 4D human-scene interaction.
- Leveraged the DINOv2 foundation model for non-rigid 3D object registration from RGBD images.

Computer Vision Lab, TU Delft — May 2022 - Aug 2023
Undergraduate Researcher; Advisor: Prof. Xucong Zhang, Dr. Shalini De Mello (NVIDIA). — Delft, Netherlands

- Researched multi-view Bayesian gaze estimation methods.
- Investigated vital factors that can boost gaze estimation performance. Developed state-of-the-art transformer-based gaze estimation models in PyTorch.
- Contributed to GazeTech, an open-source gaze estimation framework for data preprocessing and model training.

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 Bruintjes, Attila Lengyel, Ombretta Strafforello, Jan van Gemert. ICCV Workshop, 2023. (* equal contribution)

Skills

Programming: Python, C++, Java, SQL, Scala, Unix, and R.
ML/3D stacks: PyTorch, NumPy, Scikit-learn, Pandas, OpenGL, Open3D, OpenCV
Mathematics: Stochastic Calculus and Processes, Monte Carlo methods, Numerical methods, and Time Series.

Work Experience

Mercura Technologies (Y Combinator) Sept 2025 – Nov 2025
AI Engineering Intern Munich, Germany

- Designed and deployed a RAG-based LLM reranking system, achieving a 12% improvement in Mean Reciprocal Rank (MRR) and enhancing overall search relevance.
- Built and productionized a large-scale real-time web search pipeline, increasing Top-10 accuracy by 11% through optimized query processing and ranking.
- Trained and integrated BERT-based embedding models, improving recall by 23% across customer datasets.
- Automated data cleaning, training, and deployment pipelines to streamline production workflows.
- Tech stacks: FastAPI, ElasticSearch, PyTorch, HuggingFace, Supabase, MLflow, Docker, CI/CD.

Scenwise Apr 2022 – Jun 2022
Software Engineering Intern The Hague, Netherlands

- 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 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: Spring Boot, GeoPy, GeoPandas, OpenCV, NumPy, Postgres GIS, Docker, CI/CD.

CS Department, TU Delft Sept 2022 – Feb 2023
Teaching Assistant Delft, Netherlands

- Assisted *Algorithms and Data Structures*, *Big Data Processing*, and *AI Capstone 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.